HOSPITAL Topics

GRAPHIC REPORTING ON TODAY'S HOSPITAL PRACTICES

ALPH J. HROMADKA (see page 5)

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Cost Study of Disposable Needles and Syringes
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Page 50

APRIL | 1958

WHEN YOU TREAT INFECTIONS IN PATIENTS SUCH AS THESE

- debilitated
- elderly
- diabetics
- infants, especially prematures
- those on corticoids
- those who developed moniliasis on previous broad-spectrum therapy
- those on prolonged and/or high antibiotic dosage
- women—especially if pregnant or diabetic

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for "built-in" safety, Mysteclin-V combines:

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2. Mycostatin—the first safe antifungal antibiotic—for its specific antimonilial activity. Mycostatin protects many patients (see above) who are particularly prone to monilial complications when on broad-spectrum therapy.

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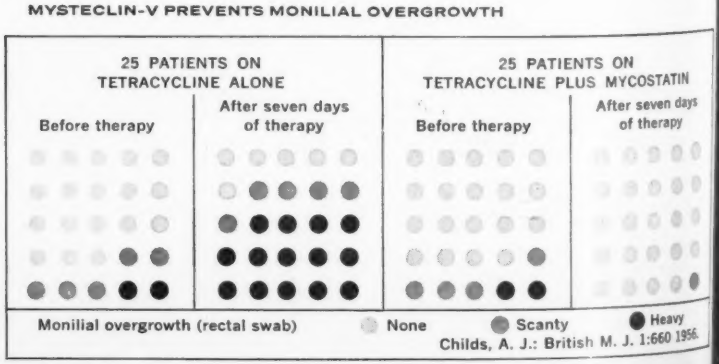
MYSTECLIN-V PREVENTS MONILIAL OVERGROWTH



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2. ***Tilt Litter so It Locks into Mattress***
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3. PLACE PATIENT ON BED SAFELY

HOSPITAL Topics
GRAPHIC REPORTING ON TODAY'S HOSPITAL PRACTICES
APRIL, 1958, VOL. 36, NO. 4

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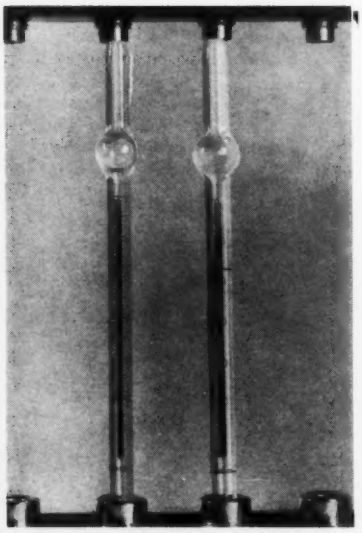

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PERSONALITY OF THE MONTH

RALPH J. HROMADKA, superintendent of the Santa Monica (Calif.) Hospital, has several claims to fame.

He is president-elect of one of the largest regional hospital groups, the Association of Western Hospitals, which encompasses 11 states.

He has been associated with the same institution for more than 20 years.

And, finally, in a state famous for attracting settlers from throughout the country, he can lay claim to being a native son of California.

A graduate of both Santa Monica City College and the University of Nevada, Mr. Hromadka joined the staff of the Santa Monica hospital in 1934. Appointed superintendent of the hospital in 1936, he interrupted his tenure to serve during World War II in the European theater.

Following the war, he returned to the hospital which is operated by the Lutheran Hospital Society of Southern California. The society also manages the California Hospital, Los Angeles, and the Donald N. Sharp Memorial Community Hospital, San Diego.

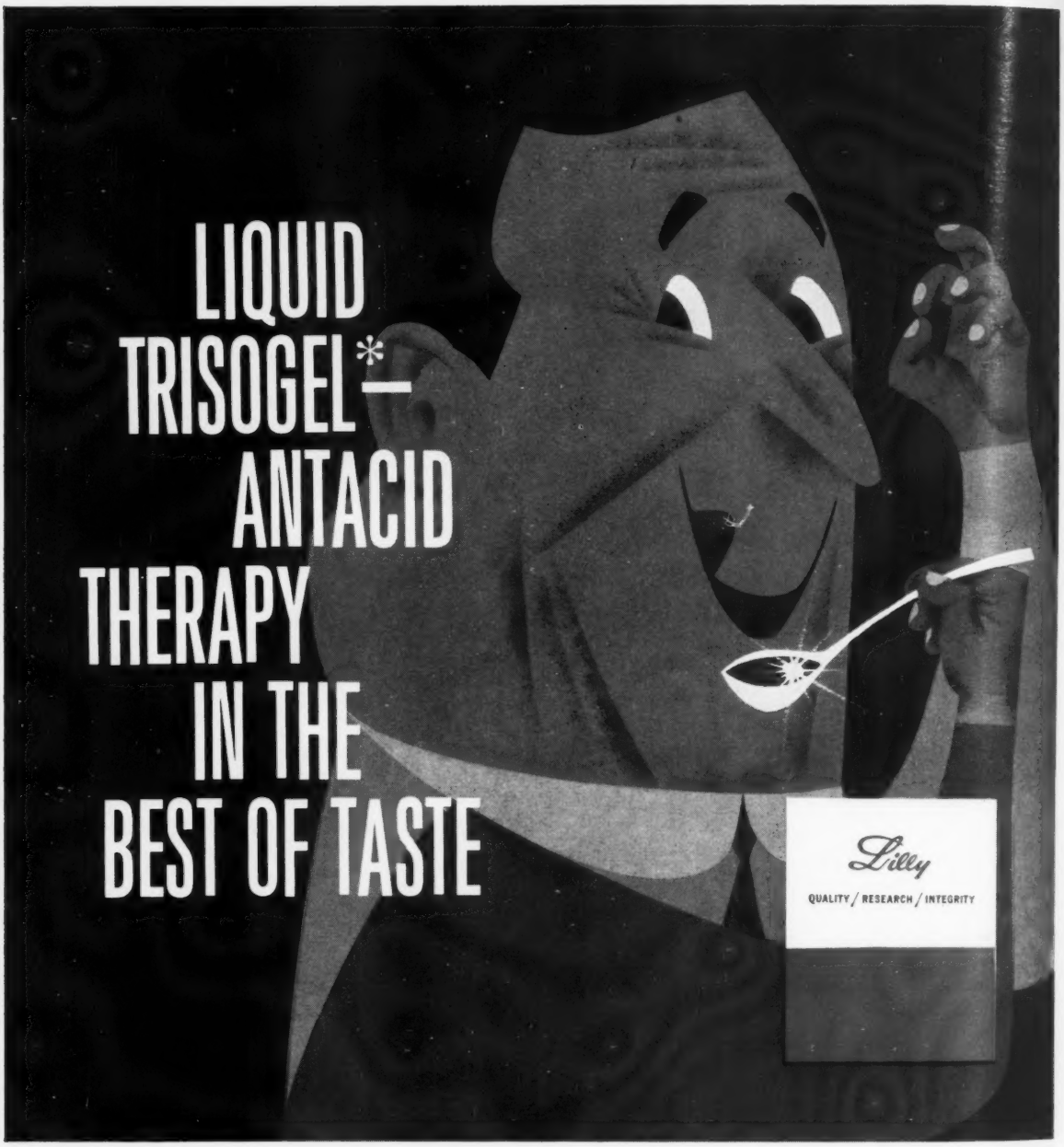
Mr. Hromadka combines his work at the hospital with a full schedule of outside activities. When he takes office as president of the Western association, later this month in San Francisco, he will climax many years as a leader in hospital development and improvement.

At present, Mr. Hromadka is a member of the board of trustees of the California Hospital Association. Also, he is a past president of the Hospital Council of Southern California.

Nationally, he has served as a member of the American Hospital Association's council on prepayment plans and hospital reimbursement, and he is a member of the American College of Hospital Administrators.

Busy though he is, Mr. Hromadka also finds time to be an active member of his community. He is a member of the board of directors and on the advisory committee for the Santa Monica chapter of the American Red Cross. In addition, he serves on the board of directors of the Santa Monica Chamber of Commerce, and is a member of the Kiwanis Club.

Mr. Hromadka is married and has two sons. He reports that, hobby-wise, he enjoys duck hunting. Further, he is the proud owner of Duke, a Labrador retriever. Duke, Mr. Hromadka declares, is "the best looking one in the family."



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HOSPITAL Topics
The News Magazine for the Hospital Staff

APRIL, 1958
VOL. 36, NO. 4

Scanning the News

Spleen Extract May Protect Against Radiation

A cell-free extract of mouse spleen may protect against exposure to radiation, recent studies indicate.

Friedrich P. Ellinger, M.D., chief radiation biologist at the Naval Medical Research Institute, Bethesda, Md., says his studies have shown that such a cell-free mouse spleen extract can protect guinea pigs against deadly doses of radiation.

The spleen extract may contain a simple chemical that protects animals and possibly humans against radiation damage, Dr. Ellinger noted, adding that in time the chemical may be isolated and synthesized.

Develop Unique Machines To Test New Toothbrush

In order to test the effectiveness of a new "hard-and-soft" toothbrush, two doctors of dental surgery invented test machines specially designed to simulate the pattern of actual toothbrush movement and pressure on mounted sets of human teeth.

The researchers are Benedict B. Kimmelman, D.D.S., chief of public health dentistry, northern division, Albert Einstein Medical Center, Philadelphia, and Gustav C. Tassman, D.D.S., chief of the center's dental department.

In a year-long study, they compared an experimental two-diameter brush, featuring inner rows of stiff bristles and outer rows of soft bristles, with fifteen models of conventional brushes.

According to the results of the doctors' study, published in *The Journal of the Albert Einstein Medical Center*, the experimental toothbrush proved most effective. Its stronger, inner bristles cleaned the teeth thoroughly, while the soft outer bristles massaged the gums without damage.

The new brush is now being marketed as Pro Double Duty, by the Pro-Phy-Lac-Tic Brush Co.

Edith Johnston, R.N., superintendent of nurses at Monte Sano Hospital, Los Angeles, presents institution's free personal care kit to a new patient. Originated by Mrs. Johnston as a means of conveying to patients the personal interest of the staff, the kit contains skin lotion, toilet soap, a sample size of talcum powder, comb, emery boards, Baywipes, and a specially printed bookmark. The idea, opposed at first by the nursing staff as an unnecessary chore, has caught on with both the patients and the nurses, who now insist on having sufficient kits on hand for every patient.

Schizophrenia Described As Several Diseases

Schizophrenia is probably not one disease but several, Howard C. Fabing, M.D., past president, American Neurological Association, declared recently.

Dr. Fabing reviewed recent advances in the investigation of mental disease by biochemical methods and experimentation at a meeting of the neuropsychiatric section, Baltimore City Medical Society.

He predicted that in the future the term "schizophrenia" would be replaced by a family of new names, each related to the specific biochemical defect that causes the specific disease.

In much the same way, he said, "fevers" of the 19th Century were identified.

Why Women Outlive Men Challenges Medical Science

Over 200,000 more men than women die each year in the country, states the Health Information Foundation's monthly statistical bulletin, *Progress in Health Services*. The question of why women outlive men is a challenge to medical science, the bulletin said.

In 1956 the male death rate was 9.6 per 1,000 population, 50 per cent higher than the female rate. Medical progress has been respon-

(Continued on page 139)

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News Briefs at Press Time

UMWA THREATENS HALT TO KENTUCKY PROGRAM IF 'FREE CHOICE' LAW PASSED

United Mine Workers Welfare and Retirement Fund indicates it will close entire medical care and hospitalization program in Kentucky if that state enacts law compelling health service plans to give clients free choice of physician.

When program started, clients had free choice of physician. But, according to Medical Director Warren Draper, M.D., hospitalization became excessive and surgery rates seemed high. First he issued orders that before a client could be hospitalized, his doctor had to consult a specialist. County and state medical societies and the AMA denounced this consultant plan in 1955.

The UMW-AMA battle got hotter last year, when Dr. Draper announced policy of approving only certain doctors and hospitals for treating UMW beneficiaries. Reductions in doctors and hospitals accepted were severe. In western Pennsylvania, for example, one estimate is that 200 of 1,050 doctors were dropped from the approved list.

One example of medical society retaliation: Some local societies are refusing membership to doctors who work for UMW program. This action has resulted in at least two lawsuits now in progress—one in Colorado and one in Pennsylvania—filed by doctors against the societies which refused to admit them.

PRESIDENT RECOMMENDS MORE FUNDS FOR HILL-BURTON

An increase in Hill-Burton funds to $121.2 million for next fiscal year has been recommended by President Eisenhower.

Original budget submitted to Congress called for $75 million. The total now requested by the President is what is being allocated in the current year and what the Department of HEW had asked the Budget Bureau to approve.

Although the President did not call for an increase to full amount authorized by law, as Rep. John E. Fogarty (D., R.I.) recently requested, his new recommendation will make it easier for the Fogarty appropriations subcommittee to raise the figure even higher when it reports HEW funds bill out of committee soon.

Incidentally, sentiment in Congress seems to be in favor of Hill-Burton extension, but it's a good idea to let your congressmen know you want the program to continue.

SBA LOANS GO UPWARD IN JANUARY

Financial aid by Small Business Administration to private physicians, hospitals, and nursing homes went upward in January after a slow period in December. SBA approved 289 loans, totaling $13,820,000—17 percent above January, 1957.

Hospitals which received loans included Doctors Hospital Realty Corp., Michigan City, Ind. (hospital and group clinic), $240,000; Sierra County Hospital, Inc., Visalia, Calif., $110,000; and Sierra Hospital, Sonora, Calif., $175,000.

BRIEF BRIEFS

American Drug Manufacturers' Association and American Pharmaceutical Manufacturers' Association are combining to form the Pharmaceutical Manufacturers' Association, with headquarters at ADMA's Washington offices. First president will be George F. Smith of Johnson & Johnson . . . Multiple exchange programs for medical scientists have been agreed upon by Russia and U. S. for a two-year period. Russian Ministry of Health this year will send to the U. S. a group of three or four medical scientists for two or three weeks to lecture and exchange experiences. U. S. will send a similar group to Russia. Agreement also provides for an exchange of medical journals and eight to 10 medical films a year . . . Some 1,900 physicians and medical institutions have been licensed to use radioisotopes, Atomic Energy Commission disclosed recently in its 23rd semiannual report. Radioisotopes are being used in treating more than 1,000,000 patients a year, and AEC estimates total expenditure of $40.5 million for its biology and medicine program in current fiscal year, ending June 30.

Gordon M. Marshall

Calendar of Meetings

APRIL

7- 8 South Dakota Hospital Association, Marvin Hughitt Hotel, Huron

7-11 American Hospital Association Institute, Planning and Working Together—Dietary, Housekeeping, and Nursing Department Directors, Edgewater Beach Hotel, Chicago

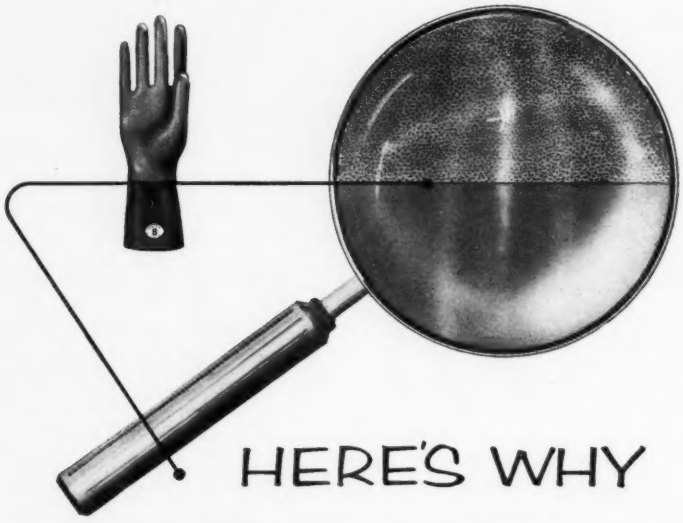
7-11 American Hospital Association Institute, Hospital Engineering Bellerive Hotel, Kansas City, Mo.

8-11 U.S.-Mexico Border Public Health Association, Hermosillo, Sonora, Mexico

14-16 American Hospital Association Institute, Medical Record Library Personnel, Benjamin Franklin Hotel, Seattle

15-17 Kentucky Hospital Association, Sheraton-Seelbach Hotel, Louisville

15-18 National Association for Practical Nurse Education, Hotel Del Coronado, Coronado, Calif.



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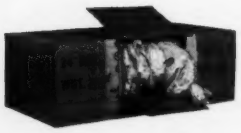

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18-20 Empire State Association of Medical Technologists, Arlington Hotel, Binghamton, New York

20-22 American Academy of Pediatrics, Spring Session, Hotel Statler, New York City

20-25 American Pharmaceutical Association, Biltmore Hotel, Los Angeles

21-23 The American College of Obstetricians and Gynecologists, Statler Hotel, Los Angeles

21-24 Association of Western Hospitals, Civic Auditorium, San Francisco

21-25 American College of Hospital Administrators, First Canadian Advanced Institute, King Edward Hotel, Toronto, Ont.

21-25 New England Hospital Assembly, Institute on Housekeeping in Hospitals, Hotel Somerset, Boston

22-23 North Dakota Hospital Association, Gardner Hotel, Fargo

24-25 Iowa Hospital Association, Savery Hotel, Des Moines

24-25 Carolinas-Virginias Hospital Conference, Hotel Roanoke, Roanoke, Va.

24-25 South Carolina Hospital Association, Hotel Roanoke, Roanoke, Va.

24-26 American Association of Pathologists and Bacteriologists, Cleveland

28-30 Tri-State Hospital Assembly, Palmer House, Chicago

28-May 1 American Hospital Association Institute, Obstetrical Nursing Service Administration, Hotel Monteleone, New Orleans

28-May 2 American College of Physicians, Convention Hall, Atlantic City, N. J.

28-May 2 American Hospital Association Institute, Occupational Therapists, Somerset Hotel, Boston

MAY

2- 3 American Osteopathic Hospital Association, Mid-America Institute, Hotel President, Kansas City, Mo.

5- 8 Texas Hospital Association, Statler Hilton Hotel, Dallas

6- 8 American Hospital Association Institute, Hospital Auxiliary Leadership, Edgewater Beach Hotel, Chicago

12-14 Arkansas Hospital Association, Arlington Hotel, Hot Springs

12-15 American Hospital Association Institute, Central Service Administration, Roosevelt Hotel, Pittsburgh

12-16 American Psychiatric Association, Civic Auditorium, San Francisco

(Continued on page 12)

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CALENDAR

(Continued from page 10)

14-16 Southeastern Hospital Conference, Hotel Fontainebleau, Miami Beach, Fla.

14-16 Upper Midwest Hospital Conference, Minneapolis

15 Massachusetts Hospital Association, Hotel Statler, Boston

19-23 American Osteopathic Hospital Association, Medical Record Librarians Training School, Kellogg Center, Michigan State University, East Lansing

21-23 Middle Atlantic Hospital Assembly, Convention Hall, Atlantic City, N. J.

21-23 Hospital Association of New York State, Hotel Claridge, Atlantic City, N. J.

21-23 Hospital Association of Pennsylvania, Convention Hall, Atlantic City, N. J.

21-23 New Jersey Hospital Association, Convention Hall, Atlantic City, N. J.

22-23 Association of Western Hospitals Institute, Business Office Management and Supervisory Training, Riverside Hotel, Reno, Nev.

25-31 World Congress of Gastroenterologic Societies, Sheraton-Park Hotel, Washington, D. C.

26-29 American Hospital Association Institute, Nursing Inservice Program, Antlers Hotel, Colorado Springs, Colo.

JUNE

2- 5 American Hospital Association Institute, Hospital Dental Service, Edgewater Beach Hotel, Chicago

2- 6 American Hospital Association Institute, Dietary Department Administration, Sheraton-McAlpin Hotel, New York City

4- 6 American Hospital Association, Hospital Organization Planning Workshop, Hotel Roanoke, Roanoke, Va.

9-11 American Hospital Association Institute, Administrators' Secretaries, Villa Hotel, San Mateo, Calif.

9-13 American Nurses Association, Convention Hall, Atlantic City, N. J.

10-11 Maine Hospital Association, Samoset Hotel, Rockland

11 Connecticut Hospital Association, Berlin Light and Power Co., Berlin

15-20 American Physical Therapy Association, Olympic Hotel, Seattle

16-18 Michigan Hospital Association, Grand Hotel, Mackinac Island

16-19 American Hospital Association Institute, Hospital Public Relations, Claremont Hotel, Berkeley, Calif.

16-19 American Society of Medical Technologists, Municipal Auditorium, Milwaukee

16-20 American Hospital Association Institute, Hospital Pharmacy, Temple University, Philadelphia

18-22 American College of Chest Physicians, Fairmont Hotel, San Francisco

23-26 Catholic Hospital Association, Atlantic City, N. J.

23-27 American Medical Association, Plaza Exhibit Hall, San Francisco

25-27 American Hospital Association Institute, Directors of Hospital Volunteers, Bellerive Hotel, Kansas City, Mo.

25-27 Comite des Hopitaux du Quebec, Montreal Show Mart, Montreal

JULY

1- 3 American Hospital Association Institute, Hospital Law, Cosmopolitan Hotel, Denver

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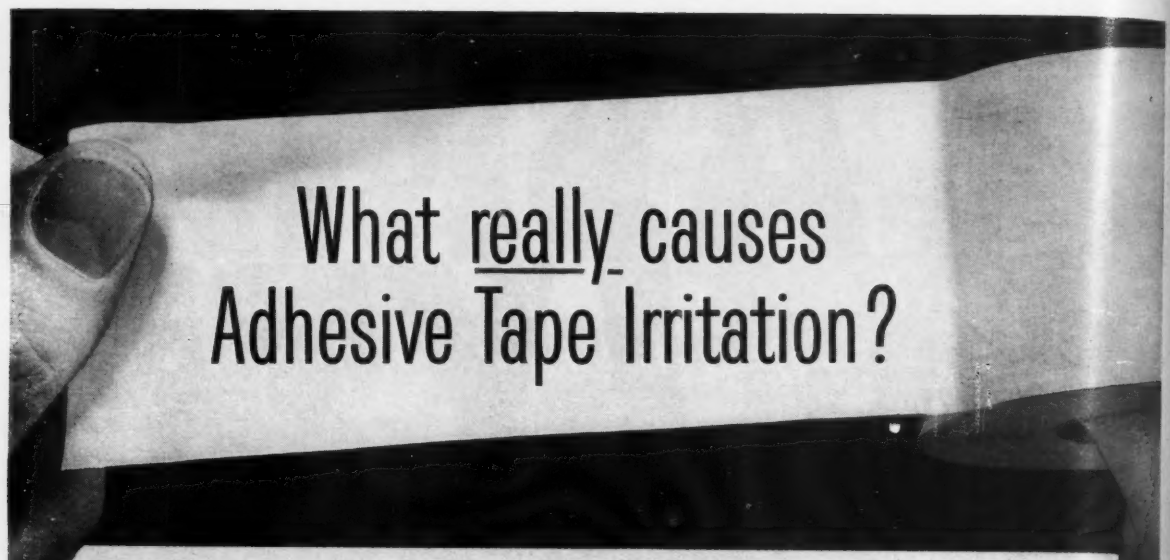

What really causes Adhesive Tape Irritation?

Should "allergy" take most of the blame?
Decidedly not! Allergy causes less than 2% of irritative reactions!

Yet almost all adhesive tape reactions are blamed on allergy.
Actually, several more important causes are responsible:

CHEMICAL — *due to impure ingredients, improper stabilization.*

MECHANICAL — *due largely to improperly controlled "stick," "flow" and flexibility of the adhesive mass.**

BACTERIOLOGICAL — *due to infections in lesions arising from chemical or mechanical irritations.*

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**A complete treatise on adhesive tape irritation will be mailed on request.*

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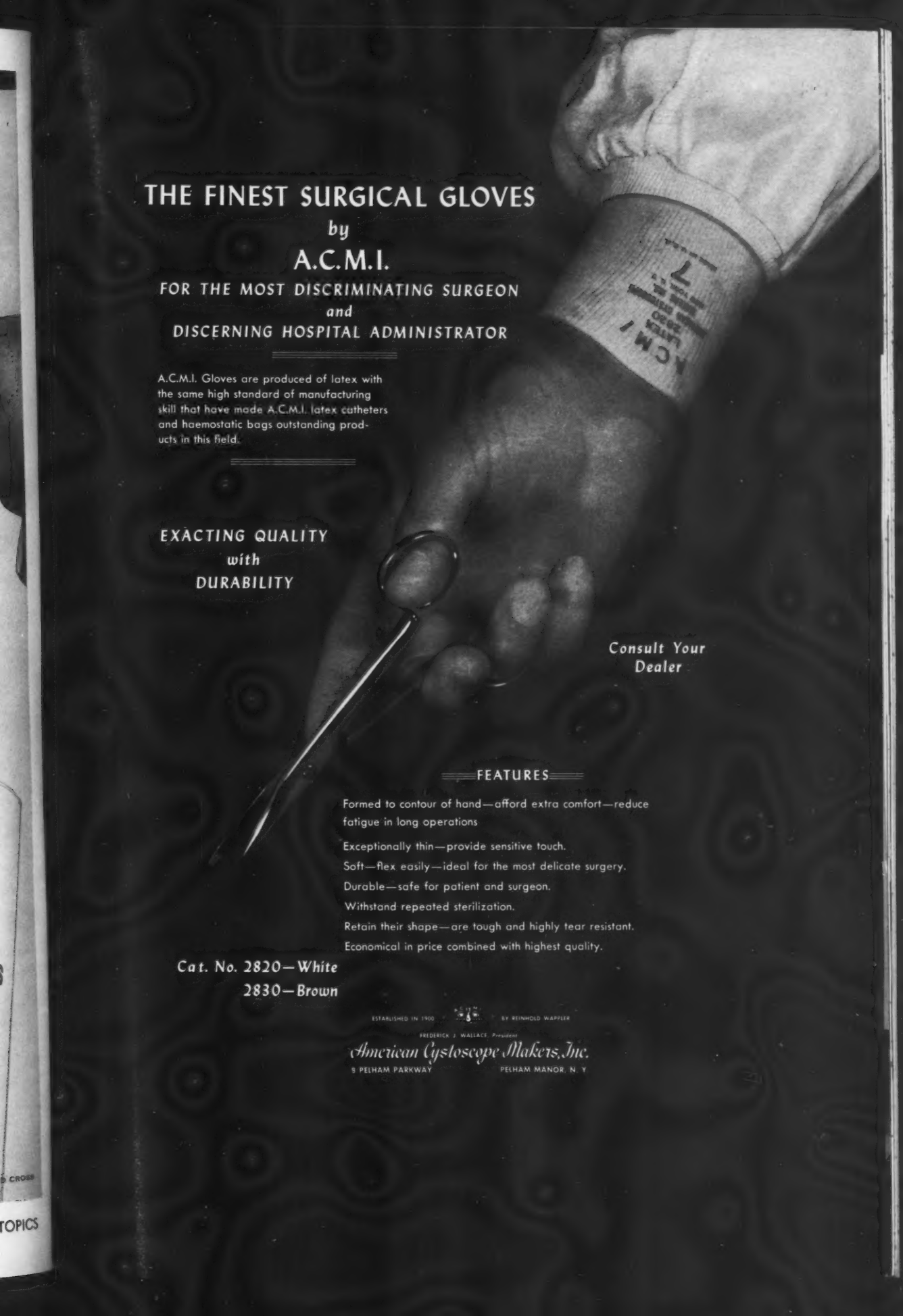
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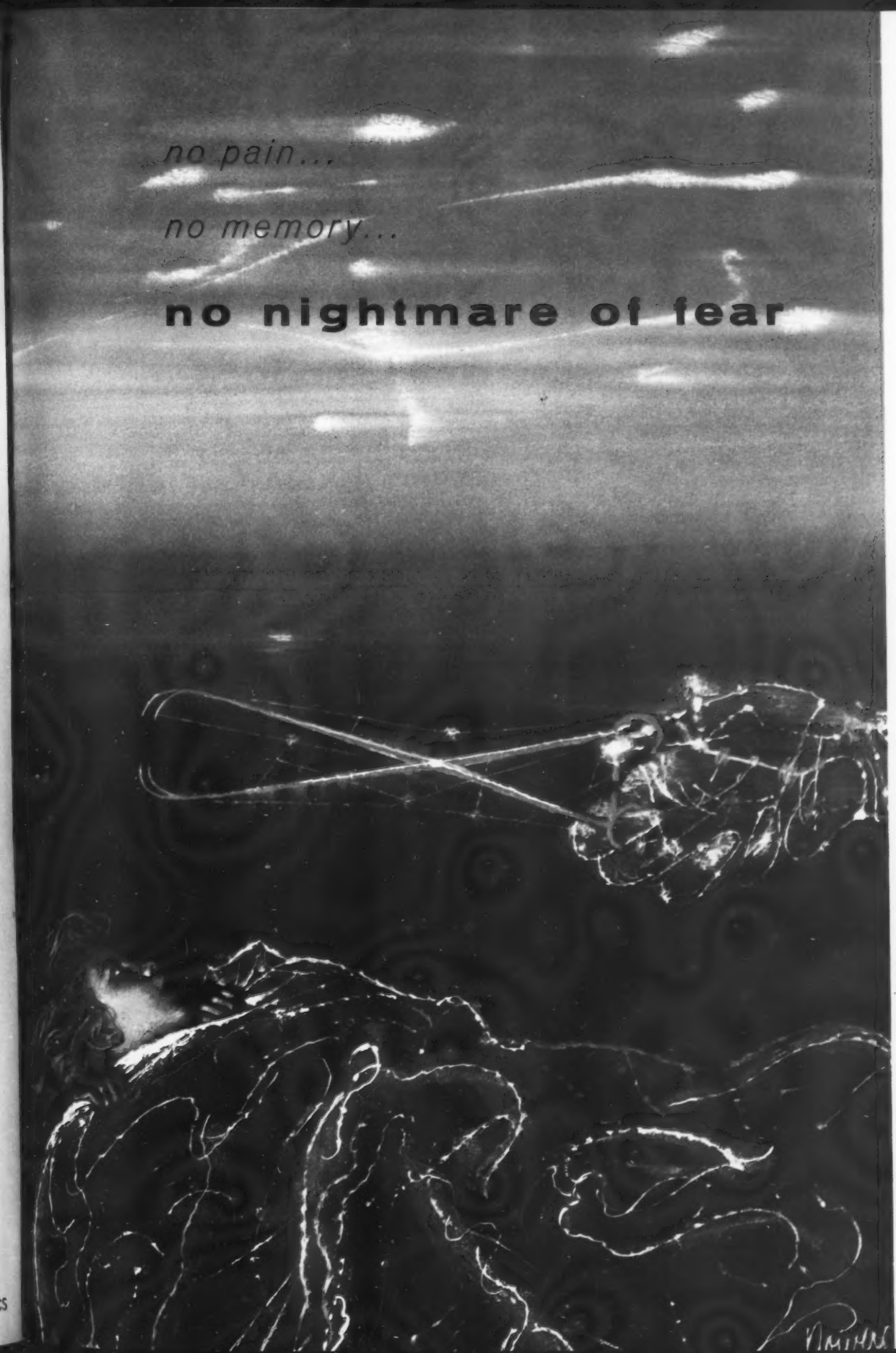

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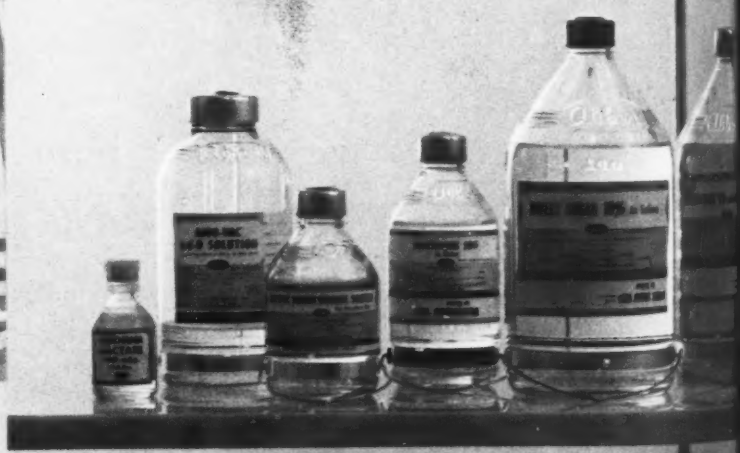


This Thomas Vroman painting, exemplifying reliability in action, is available on heavy 14½ x 19 paper without advertising, for framing. Write for "Stonewall Jackson," to Professional Services, Abbott Laboratories, North Chicago, Ill.

Officers of the Ohio Hospital Association, named at its annual meeting are: (standing, l. to r.) Harold A. Zealley, administrator, Elyria Memorial Hospital, trustee and northeastern district chairman; Lee S. Lanpher, administrator, Lutheran Hospital, Cleveland, treasurer; John C. Gettman, administrator, Sandusky County Memorial Hospital, Fremont, first vice-president; Sister Eugene Marie, administrator, Good Samaritan Hospital, Cincinnati, second vice-president; Lawrence Brett, administrator, Bethesda Hospital, Cincinnati, trustee and southwestern district chairman; (seated, l. to r.) Anthony S. Dickens, administrator, Springfield City Hospital, president-elect; Roger Sherman, administrator, Children's Hospital, Akron, president; and Wayne B. Foster, administrator, Holzer Hospital and Clinic, Gallipolis, immediate past president.

Food Service, Endowment Programs Take Spotlight at Ohio Meeting

2,600 attend 43rd annual convention in Cincinnati

Development of Endowment Program Is Long-Term Process

Community Service Plus Public Relations Needed for Success

Important sources of income for small hospitals are endowments and special gifts. They make up a small percentage of the average hospital's total income, yet can represent the difference which balances the budget or provides equipment or service needed to maintain an adequate standard of care.

The major part of endowment income is received through wills and bequests, and is developed over a long period of time. A first requisite in building endowment income through bequests is a hospital program that truly serves the community.

Second in importance is the maintenance of good public relations — telling, completely and regularly, what your hospital is trying to do and how it is doing it. An annual report, attractively prepared and widely distributed, can build public confidence and make many friends. In it you can acknowledge the support you have received from organizations and individuals, and enlist future assistance.

A newsletter or other periodical can keep friends of the hospital currently informed of needs for new services or equipment.

However, distribution of an annual report or a newsletter involves the development of an effective mailing list. In addition to board members and other established friends of the hospital, such a list might well include trust officers and lawyers.

An honest presentation of budget needs is essential in the solicitation of endowments or special gifts. Indiscriminate or widespread solicitation, especially of industrial donors, must be avoided. In some cities, it is required that capital-fund campaigns or solicitation of any substantial amounts be cleared through the health and welfare council.

The success of a campaign depends also upon the responsibility the hospital has shown for meeting broad community needs. There is no justification for

(Continued on next page)

Below, left: Mrs. Louis C. Rittmeyer, Mr. Rittmeyer, past president, OHA, Wayne B. Foster, and Mrs. Foster are shown with plaque presented to Mr. Foster, outgoing president, in recognition of his service to the association.

Below, right: Mr. and Mrs. Roger Sherman chat with Arthur Fleming, Ph.D., during annual dinner meeting at which Dr. Fleming spoke. He is president of Ohio Wesleyan University.

Mrs. Linn Perkins and Harry H. Goebel meet at the "Cincinnati — Now and Then" party which opened the convention. Mrs. Perkins is administrator, and Mr. Goebel, purchasing agent of Christ Hospital, Cincinnati.

Party-goers also included (l. to r.) Mrs. Leon E. Bailey, Gerald O'Hare, administrative assistant, Youngstown Hospital, Leon E. Bailey, pharmacist, Youngstown Hospital, and W. H. Hoobler, administrator, Kettering Hospital, Lowdenville.

solicitation if the hospital is operated only as a sort of commercial, medical supermarket, with no outpatient department, no research program, no teaching program, and a limited amount of free or part-free patient care.

Increased competition for the philanthropic dollar is likely in the future, especially from educational institutions. To maintain their share in endowment bequests and gifts from living donors, hospitals will have to interpret their needs (and good deeds) continually to key persons in the community.—*J. Kimball Johnson*, director, Cleveland Foundation.

See Greater Centralization of Patient Records in Hospitals of 1965

Changes Anticipated in Staffing, Services, Physical Plants

The hospital patient in 1965 will show an identification card upon admittance; complete records and history will be on file in a central office in the area.

He will then be placed in a private room, about 9x10 feet, which will contain a washstand attached to the wall, a mechanized bed, an audio-visual nurse call system, a television set with pillow speaker, and oxygen tent equipment which will fit under the bed. Private toilet and shower facilities will adjoin each room.

Food service will be improved. There will still be an insufficient supply of nurses. But the nurses' work will be more supervisory—directing the health team. They will move about more, giving reassurance to the patients by more frequent appearances. Increased time for patient contact will result from a reduction of paper work, due to greater co-ordination of orders for patient care.

Doctors will have private offices in professional buildings adjoining the hospitals. They will be more accessible to their patients, will be more solicitous in their approach to them, will be more aware of patients' emotional problems, will adopt more of the principles of psychiatry in their treatment of patients.

Hospitals will be larger—from 800 to 1,000 beds—with small hospitals merging for greater efficiency of operation. Suburban and urban hospitals will have distinct and separate functions, avoiding duplication of equipment, personnel and activities. Care of indigent patients will be considered a community problem.

Panel members who spoke on "Public Relations Has Grass Roots, Too!" were: (standing, l. to r.) Lloyd E. Larrick, M.D., director, Christ Hospital, Cincinnati; Jay W. Collins, executive director, Euclid-Glenville Hospital, who presided; Daniel S. Schechter, chief of public relations activities, AHA, Chicago; (seated, l. to r.) Mrs. Ludel B. Sauvageot, women's board, Akron General Hospital; Mrs. Sinton P. Hall, trustee, Children's Hospital, Akron; and John F. Conlin, M.D., director, Boston City Hospital.

Among the speakers at the meeting, and their topics, were (l. to r.): Karl S. Klicka, M.D., director, Presbyterian-St. Luke's Hospital, Chicago, "Hospital Care in 1965"; Robert C. Haynie, assistant to the president, Champion Paper and Fibre Co., "The Economic Scene in 1965"; and Robert M. Zollinger, M.D., chairman, department of surgery, University Hospital, Columbus, "Medical Care in 1965." Louis C. Rittmeyer, administrator, Dunham Hospital, Cincinnati, presided at the session.

Left: Mrs. John C. Gettman, wife of OHA's first vice-president, was one of the guests at reception preceding annual dinner meeting. She is shown with Harry C. Eader, OHA executive director.

Right: Mrs. Blanche Nibert (l.) was honored at the convention for her 24 years of service at Holzer Hospital and Clinic, Gallipolis, where she is head seamstress. Mrs. Alberta J. Wetherholt, pictured with her here, is executive housekeeper at the hospital.

Internships will be discontinued, but senior medical students will be very much in evidence. Technicians will do much of the work formerly done by interns.

Nursing education will still be associated with hospitals, but will be under the supervision of educational boards, often community-sponsored. Nurses will receive two years of basic training, one year of internship. Housing for nurses will be more attractive, to encourage young women to enter the profession. Tensions now existing in hospitals will be relieved, creating a more favorable work atmosphere. — *Karl S. Klicka, M.D.*, director, Presbyterian-St. Luke's Hospital, Chicago.

Growth and Change in Hospitals Affect Food Service

More Patients, New Treatment Create Greater Demands

Among the problems facing the hospital dietitian is the rising cost of food. Coupled with this is the high cost of labor, which is felt in food service as in other departments of the hospital.

Demands on the dietary department have been increasing. There are more orders from physicians for modified diets, more requests for participation in innovations in regimen and research. Modified diets often comprise from 35 to 50 percent of food service to patients. Co-ordination between administration and food-service management is necessary.

The number of patients requiring diet instruction upon discharge is increasing. Early ambulation, minimal care units, and rapid turnover of patients increase the work load. There are more diet changes, less time for patient contact and instructions.

Widespread emphasis on future health has created a demand for better education in the essentials of adequate diet. The prenatal clinic has a much greater work load. There is a growing need to teach senior citizens about their particular food needs.

The public demands more than ever before. Some persons are well-informed concerning nutrition. How-

(Continued on next page)

Right: Lucile Refshauge, director, dietary department, Hartford (Conn.) Hospital, replies to a question from the audience during the session on "Hospital Food Service — a Challenge—Present and Future."

Below: Louis Block, Dr. P.H. (standing), Department of Health, Education and Welfare, Washington, D.C., speaks on "Statistics." Casimir M. Nikel (seated), administrator, Evangelical Deaconess Hospital, Cleveland, presided at the session.

Below: Discussing "Blue Cross Problems" at the meeting were (l. to r.) Henry N. Hooper, administrator, Cincinnati General Hospital, who presided; Jay W. Collins, executive director, Euclid-Glenville Hospital, Euclid; Robert T. Evans, chairman, Blue Cross Commission, Chicago; and Madison B. Brown, M.D., associate director, AHA, Chicago.

ever, misinformation and fallacy are rampant. It is part of every dietitian's job to try to rectify this problem.

A challenge to every hospital dietitian is the public-relations aspect of good food. Every patient is an authority on food, and is often quite expressive. He cannot evaluate the surgeon's skill or the actual nursing care, but he can evaluate his food.

Dietitians are faced with a competitive talent hunt with many other professions, as well as with marriage.

In solving these problems, the dietitian as an executive in the hospital, must apply the science of management through good human relations, and combine it with the art of quality food production for all patients and personnel. In order to meet the challenges of the present and the future, the hospital dietitian must be creative, imaginative analytical, dynamic, and flexible.—*Lucille M. Refshauge*, director of dietetics, Hartford (Conn.) Hospital.

Expect Sharp Rise in Number Of Patients over 60 Years

Emergency Room of Future May Be Diagnostic Center of Hospital

More hospital facilities for delivery rooms, nurseries, pediatrics, and surgery—less for polio and infectious diseases—will be seen in 1965.

A 46 percent increase in the number of patients 60 years and older is expected. Since one out of every four patients over 60 is chronically ill, long-term treatment will increase.

Since it is anticipated that one out of every seven persons will be hospitalized annually, more facilities for patients of all ages will be needed. The length of hospital stays will increase.

Social services will be expanded, as well as prolonged nursing care and ward facilities for patients whose

(Continued on page 128)

John W. Cronin, M.D.

JOHN W. CRONIN, M.D., assistant surgeon general and chief, Bureau of Medical Services, U. S. Public Health Service, died suddenly of a heart attack on March 26, soon after conducting a staff meeting in his Washington, D.C., office. He was 52.

It is exceedingly difficult to write a eulogy to Jack Cronin without being oversentimental. He was the last person who would want a show of emotion. One felt his humanity, warmth, and humor. But he was never ostentatious, even with his emotions.

American hospitals have lost a dedicated and effective friend—one who recognized no limitation of hours or work days. He drove himself tirelessly to accomplish his objectives. He had many opportunities to gain worldly rewards, but he rejected them to remain in the Public Health Service.

Dr. Cronin was a man of action and conviction. Yet he could always find time for friendliness and sympathy. His sparkling Irish wit attracted people like a magnet.

Born June 15, 1905, in Springfield, O., he was graduated from Miami University, Oxford, O., in 1928. He received his medical degree from the University of Cincinnati College of Medicine in 1933.

Dr. Cronin entered the Public Health Service as an intern at the Staten Island, N.Y., PHS Hospital. From 1949 to 1956, he was chief of the Division of Hospital and Medical Facilities—responsible for the administration of the Hill-Burton program. During this period, the Hill-Burton Act was expanded to provide special programs to aid construction of chronic-disease and rehabilitation facilities, and nursing homes.

On November 1, 1956, Dr. Cronin was promoted to the rank of assistant surgeon general, and made chief of the Bureau of Medical Services. In this position, he was responsible for the administration of the Public Health Service hospitals, the Indian health program, the foreign quarantine service, the Hill-Burton program, nursing and dental resources, and the medical services of several federal agencies, including the U.S. Coast Guard, Bureau of Prisons, and the foreign service of the State Department.

He was awarded the founders' medal of the Association of Military Surgeons of the United States in 1953, and an honorary degree of doctor of science from Miami University in 1955. He was a fellow of the American Psychiatric Association, the American College of Surgeons, the American Public Health Association, and the American College of Preventive Medicine, and a diplomate of the American Board of Preventive Medicine.

He had served as a trustee of the American Association of Public Health Physicians, a vice-president of the Association of Military Surgeons, and a member of the board of governors of the American College of Surgeons.

Dr. Cronin was buried in Arlington National Cemetery on March 31. He is survived by his widow, Virginia Dunkle Cronin; a daughter, Virginia May, and a son, John W., Jr.

John G. Steinle
Consulting Editor

TOPICS' report on . . .

ACHA Congress on Administration

Part II

This is the second and concluding part of TOPICS' report on the congress on administration held by the American College of Hospital Administrators in observance of its 25th anniversary. For Part I, see pages 17-20 in the March issue.

Assessing Organizational Effectiveness

Leader: Willard P. Earngey, Jr., administrator, Harris Hospital, Fort Worth, Tex.

An organized effort is any group activity aiming to achieve specific goals. There are three general criteria for evaluating organizational effectiveness:

1. Productivity. The fundamental objective is to produce a product or service that is acceptable to the consumer. The goal in the hospital is qualitative results.

2. Flexibility—the extent and direction which the organized effort takes when any one of several factors (supply and demand, income fluctuations, or labor problems) changes the bases upon which the enterprise was originally founded.

3. Absence of intraorganizational stress or tension and of conflict between organizational subgroups.

Objective and factual criteria of specific departmental operations are among the factors on which organizational effectiveness can be evaluated, but these are only relative to the over-all objectives of the organization.

How to Listen Efficiently

Leader: Donald R. Easton, M.D. superintendent, Royal Alexandra Hospital, Edmonton, Alta., Canada.

Good listening is essential to an administrator, who spends about 80 percent of his time listening to others, or having others listen to him.

Many things will help make a good listener. Five of these are essential. They are:

1. Face the speaker.
2. Watch the speaker.
3. Listen for ideas—not words.
4. Allow for personal bias.
5. Do not be prejudiced by the speaker's dress or his personal mannerisms.

Do not prejudge the speaker. Even though he might present an idea to which you are unalterably opposed, he might also present a thought or idea that would be helpful or valuable in a different situation.

Allowance must be made for the varying abilities of different speakers. The average man can talk at a rate of about 125 words a minute—but the human mind works about three times faster than that. The average person retains only about 25 percent of what he hears. A good listener thinks ahead and endeavors to see what the speaker is up to. Also, he periodically sums up what has been said.

Listening attentively means watching the speaker for facial expressions, gestures, and tone of voice. These are all important. Many times the expression and gestures will impart to the talk a meaning that would be lost if the listener had to depend on voice alone.

The speaker has an idea. He breaks this idea down into words that the listener must then reconstruct into the idea that the speaker is trying to convey. Good listening habits would reduce the tons of memos that are written each day. Practice nondirective listening. Listen, but do not put any new ideas into the thoughts or erect any ideas that will prove mental blocks.

There are 10 different kinds of listening:

1. Attentive: The best kind.

2. Uncomprehensive: "I listened and he never said a word."

3. Sentimental: "I nearly swooned when I heard Frank Sinatra sing."

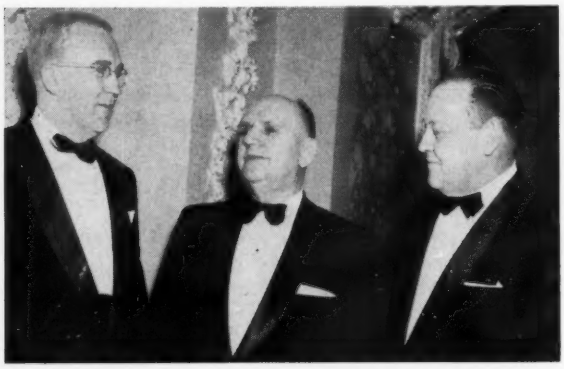
(Continued on next page)

The registration area, as always, was a good spot for an informal get-together. Harris B. Jones (l.), administrator, Washington (Ia.) County Hospital, and Leon A. Bondi, administrator, St. Luke's Hospital, Davenport, Ia., are shown here with J. Dewey Lutes, administrator, Woonsocket (R.I.) Hospital, one of the founders of the ACHA.

4. Passive: "My brother had Dick Tracy on the radio, but I didn't hear a word."

5. Emotional: "Every time I hear the 'Star-Spangled Banner' I think of the time when my brother went into the Army."

6. Biased: "My wife and I listen to the same radio program. She hears words that were never spoken."



Photographed at the banquet were ACHA officials (l. to r.) Dean Conley, Chicago, executive director; Albert G. Hahn, administrator, Protestant Deaconess Hospital, Evansville, Ind., first vice-president; and Frank S. Groner, administrator, Baptist Memorial Hospital, Memphis, Tenn., president.

7. Stylistic: "I could listen to Winston Churchill speak for hours. He has a perfect command of the English language."

8. Critical: "Listen to him. He never says a thing."

9. Marginal: "I listened, but it went in one ear and out the other."

10. Selective: "Actually, I only listen when he has something really important to say."

The Art and Science Of Long-Range Planning

Leader: T. Stewart Hamilton, M.D., executive director, Hartford (Conn.) Hospital.

Long-term planning is a team effort. Top management must pull the information together, analyze it, and develop the plan.

Before the plan is put into effect, it should be critically analyzed to be sure that key influences in the growth of the facility have been considered, that strengths and weaknesses have been evaluated, that the capacities and trends in function have been projected far enough ahead, that a practical time-table has been developed for implementation, that alternates to the basic plan have been considered and that provisions for future reverses or major trend changes have been considered.

Total community planning must be considered as well as trends in medical education, research, automation, possible legislation, the total health programs, and labor's ideas in development of "package programs."

"Long-range" is considered as probably five to 15 years, with "all time" as a possibility. The VA program is an example of development of a long-term plan over the last 12 years.

It was suggested by one discussant that former Federal Security Administrator Oscar Ewing had in mind the eventual use of VA facilities for care of the aged under pension-type programs.

'Assistant to': Organizational Watchdog

Leader: Herbert M. Krauss, administrator, Latrobe (Pa.) Hospital.

Central executives in industry often use an assistant whose prime purpose is to circulate among various departments soliciting or otherwise extracting meaningful data to relay to the executive in an effort to get a true picture of the organization.

Most hospital administrators reject this concept. The difficulties, they feel, in having an "assistant to" are found primarily in the conflict between line and staff functions and in the all-too-frequent absence of a clear definition of the duties of such a person.

The assistant administrator is in a line position of authority, while the "assistant to" occupies a staff position. His prime function is to interpret the needs of the institution to the administrator. Because of his lack of line authority, he is uniquely placed to gather information that might be available, but in other forms to the administrator or to his assistant.

In practice, the "assistant to" should complement the administrator in his capabilities, particularly in such areas as public relations, routine and detailed research, and operations analyses. This person should be assigned to special projects not involving line authority.

If carefully selected and instructed, he could also serve as an informed intelligence agent for the administrator and possibly as a buffer for the chief executive in much the same manner as does the adjutant in a military organization.

The Administrator's Role in Setting And Maintaining Standards

Leader: Murray W. Ross, assistant director, Canadian Hospital Association, Toronto, Ont., Canada.

The hospital, because of the preponderance of professional personnel it requires, differs from other types of businesses. Professional requirements dictate most standards. The cost of supplies and equipment is dictated by professional standards.

Many hospital activities are routine and standardized, but the treatment of each patient is unique. The doctor, nurse, technician, and others must integrate their activities around the needs of the patient. Administrative action may facilitate co-ordination, but in the final analysis it must come largely

through the co-operative efforts of the various people involved. Co-ordination depends to a large extent upon communication.

The administrator does little in setting standards —more in maintaining standards. His basic problem is handling people. He should establish security and expect employees to be loyal. If he sells objectives and policies to department heads, he can maintain standards.

Failures Offer Clues to Success

Leader: William M. McCoy, manager VA Hospital, Hines, Ill.

We make mistakes. We must be able to admit them and capitalize on them by having a plan of action to recoup from failure to success.

Among causes of failure are a desire for perfection, an urge to act from expediency, inconsistency in making decisions, an obsession to win, a tendency to classify everything as black or white, a failure to maintain a sense of proportion—to put first things first, and a failure to maintain impersonal attitudes.

We fail because we do not admit our faults, we are trying to save face, or we do not recognize our mistakes.

Impact of the Organization On the Individual

Leader: George H. Buck, executive director, Nassau Hospital, Mineola, N.Y.

The needs of individual personality structures and the patterns of formal organizational structures in our society tend to pull in opposite directions. How can this incompatibility be lessened, and what keeps an individual from doing his job as it should be done?

As a person grows and develops from infancy to adulthood, he changes from a state of passivity to one of activity; from dependence to independence.

The formal organizational structure, on the other hand, tends to demand of its members those personality traits which are usually considered immature—dependency, passivity, subordination, lack of control over working environment, and a short-range outlook.

Lack of ability to resolve these conflicts results in poor employees, low productivity, high turnover, and indirect sabotaging of work goals. There has been the assumption that the individual has the ability to separate himself personality-wise and accept money to offset the psychological dissatisfactions which arise in the work situation.

Individuals do not relish being made a mere spoke in the organizational wheel. Organizations should allow the individual to make contributions to the organization; then he will feel that he is a part of the organization.

Much can be done in properly orienting the employee so that early in his employment he learns how to relate himself to the organization. Organization must provide job satisfaction for the individual if he is to develop a favorable attitude toward the organization.

NEW SERIES TO REPORT ON MEDICAL CARE ABROAD

FOR the last several years we have been discussing the feasibility of a review of medical education and hospitals in Europe and the Near East.

American hospitals are constantly receiving inquiries from graduates of foreign medical schools. The question that always arises is: "How do these schools compare with American schools?"

Furthermore, hospitals in this country should be interested in other ways of doing things. We can always learn from others. Other countries may have made technical advances of which we are unaware.

Immediately after Christmas our consulting editor, John G. Steinle, left on a tour which took him to 19 countries, 21 medical schools, and 46 hospitals. He reports his observations in a series of articles beginning next month. Look for "The World and Medical Care" in your May issue.

Gordon M. Marshall
Publisher

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Practical Planning for Future Needed, Wisconsin Group Told

Present Knowledge Should Be Applied To Meet Changing Hospital Demands

Continuity of Care, Co-ordination Of Services Called a Necessity

Planning hospital facilities or services to meet constantly changing needs is a complex and never-ending task. The vast knowledge now available to all of us must be applied in the near future if planning is to be of practical value.

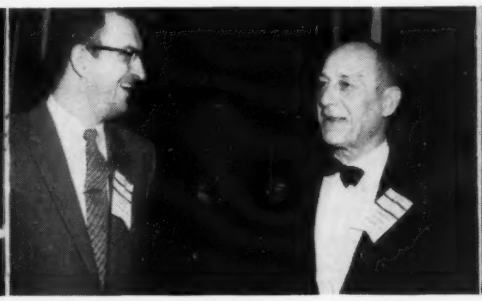
Fluctuations in the economic level, and changes in the age level and method of paying for hospital care have caused striking alterations in the over-all utilization of hospital services and type of accommodations required. The advances in medical science have not decreased the need for hospital services—only altered the type required.

Several problems need immediate attention. At present, scarcely any phase of institutional medical care is so in need of a co-ordinated approach and sound community planning as the care of the aged infirm. The cardinal principle in planning for the chronically ill is that continuity in the care of the patient must be provided. It follows that there must be integration of the facilities and services utilized. It is highly desirable, for instance, that nursing homes, whenever possible, should be under the same ownership and administration, with the same medical staff, as the general hospital.

Organized home-care programs have a major role to perform to meet medical needs of the population. By offering psychiatric care, the general hospital can provide diagnostic study and carry out adequate therapy no matter what the illness. Hospital communities now in a position to provide psychiatric services should not wait forever.

What about rehabilitation services in the general hospital? Some rehabilitation centers are medically oriented, emphasizing restoration of physical capacity; some are vocationally oriented, emphasizing preparation for work.

To meet the practical considerations of many communities, a proper balance between the two types is necessary to provide the wide range of rehabilitation services needed. Probably the most important factor is direction by a person who comprehends the meaning of "total rehabilitation."—*Vincent Otis*, director, Division of Hospital and Related Services, State Board of Health, Madison.



Left: Sitting down for a few minutes to talk are L. M. Wheeler (l.), director, Wisconsin Blue Cross, Milwaukee, and Karl H. York, administrator, St. Luke's Hospital, Racine, and first vice-president of association.

Center: Two program participants compare notes on their talks on nosocomial infections. Adolf L. Kappus, M.D. (r.), professor, and director of Department of Microbiology and Immunology, Marquette University School of Medicine, Milwaukee, discussed hospital's responsibility toward control of infections, and Silas Farmer, chief bacteriologist, St. Luke's Hospital, Racine, described a laboratory approach to evaluation.

Right: After his installation as president of WHA, John W. Rankin (l.), director, Milwaukee County Institutions, congratulates Mr. York on being named president-elect during annual business meeting.

Team Approach Necessary to Reduce Incidence of Nosocomial Infections

Cannot Trust to Safety Of "Antibiotic Cover"

Nosocomial infections—those which are imported into and transmitted in the hospital—occur among people restricted in movement. While such infections have always existed, rise in incidence accompanying the development of antibiotic-resistant staphylococci emphasizes the necessity for a broad approach to control.

We must give up the idea that we can move safely

under an "antibiotic cover." Only teamwork can cut down the incidence of these infections.

Thinking must be in terms of microorganisms and hosts, of survival time of organisms and their means of transmission, and of the susceptibility of whole groups of people. The team must include the clinician, the hospital administrator, and an additional person who is trained in public health and who knows the specialized laboratory tools available for study.—*Adolf L. Kappus, M.D.*, professor and director, department of microbiology and immunology, Marquette University School of Medicine, Milwaukee.

Pilot Study Determines Clean And Dirty Areas of Hospital

We did a pilot study at St. Luke's to determine the over-all cleanliness of the hospital. The administrator, the director of building services, and the bacteriologist formed the nucleus of an infections committee.

More than 100 cultures were taken from selected areas throughout the hospital, including the immediate patient area, surgery, and the general plant. An effort was made to recover, quantitatively, the number of bacteria per square inch.

The results were sometimes surprising. For instance, 10 cultures taken from patient beds showed a varying count of from 2 to 1,440 bacteria per square inch; seven of the 10 cultures showed staphylococci. Floors were cleaner than beds. Kitchen cultures showed bacteria but no staphylococci.

In the surgery, 1,398 bacteria per square inch were found in a culture from an anesthetic mask cleaned and ready for use. Ten cultures from inside a surgeon's gloves showed the right hand consistently cleaner.

It is easy to identify bacteria from a definite infection. Special selective technics are needed to isolate a pathogen from a mass of other flora and, further, to establish its nosocomial nature.

Studies by teams are time-consuming and intricate. Although the patient need not be maintained in a sterile container, his resistance to bacteria is altered when he is hospitalized. Thus, the clean and dirty areas in the hospital should be determined.—*Silas Farmer, M.S.*, chief bacteriologist, St. Luke's Memorial Hospital, Racine, Wis.

Left: H. M. Coon, M.D., administrator, Milwaukee County Hospital, a Wisconsin association trustee, congratulates Mrs. Mary Evans, administrator, Beloit Hospital, after she was named 1958 recipient of annual Award of Merit, given for outstanding service to hospitals throughout the state.

Center: Mrs. Alice Sanders (l.), secretary, Milwaukee Hospital Council, discusses program of rehabilitation services recently initiated in Milwaukee area, which she co-ordinates under project developed by Community Welfare Council of Milwaukee. She talks here with Helen Callon, State Board of Health, Madison.

Right: During program intermission, Merton E. Kniseley (r.), administrator, St. Luke's Hospital, Milwaukee, stops to talk with Riley McDavid, administrator, Kenosha Hospital, past president of the association.

Left: Sister M. Laurissa (l.), assistant administrator, and Sister Rosemary, business office head, both of St. Elizabeth Hospital, Appleton, Wis., discuss hospital expansion plans with Vincent Otis, director, Division of Hospital and Related Services, Wisconsin State Board of Health, Madison, after Mr. Otis' talk at meeting.

Center: Father and son find time for a visit between sessions. Maurice J. Norby (l.), deputy director, American Hospital Association, Chicago, one of the program speakers, talks with his father, Joseph G., a hospital consultant in Milwaukee, and a past president of the AHA.

Right: Monsignor Edmund J. Geobel (l.), director of Catholic Hospitals, Milwaukee, and a trustee of the Wisconsin Association, pauses before annual luncheon to exchange greetings with Owen Lewis, Wisconsin State Department of Nurses, Madison.

Ulcer Surgery, Cholesterol Among Chicago Medical Topics

Total attendance at the 14th annual clinical conference of the Chicago Medical Society, held March 4-7, was 6,401, including 3,573 physicians. Abstracts of selected papers follow.

Stress of Everyday Living Blamed For Raising Cholesterol Level

Amount in Diet Unimportant, But Addition of Vegetable Oils Favored

Evidence is accumulating that stress — even the stress of everyday living — plays an important role in raising the blood level of cholesterol, and therefore presumably has a bearing on the rate at which hardening of the arteries develops.

Healthy students during examination period manifest a very significant rise in blood cholesterol. The same change has been observed in business executives who are under extreme tension and pressure. Physical exercise, on the other hand, although it can be regarded as a form of stress, appears to lower blood cholesterol content and may therefore be presumed to have a beneficial effect.

The amount of cholesterol in the diet is of very little importance, since most of this compound circulating in the blood stream comes from internal synthesis from simple chemical compounds present in the tissues of normal subjects in great abundance. The amount of cholesterol circulating at any specific time is dependent upon a balance between the amount entering the blood from the food and organs which are producing it, and the amount being lost by excretion almost entirely through the liver.

There is not yet enough dependable experimental and medical information to permit the formulation of an intelligent program of treatment that can assure prevention of or improvement in arteriosclerosis. Female sex hormone is known to be effective, and nicotinic acid in large doses will produce an effect. Perhaps the soundest method to date is the incorporation in the diet of moderately large quantities of vegetable oils such as corn or poppyseed oil. **—Edgar S. Gordon, M.D.,** professor of medicine, University of Wisconsin Medical School, Madison.

Analyzes Difficulties in Reducing Incidence of Perinatal Mortality

More Uniformity Needed on Deaths To Be Included in Reports

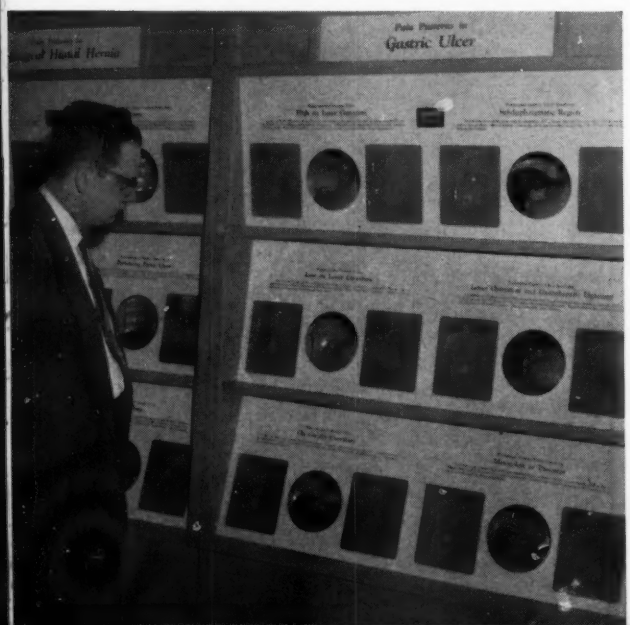
Reduction of perinatal mortality below the level of 10 to 15 deaths per 1,000 deliveries will be much more difficult than the recent, tremendous reduction of maternal mortality.

One reason is that there is much ignorance about a large segment of premature fetal loss, whether complicated by oxygen lack or not. There are still many unexplained deaths in utero and other deaths unexplained even after an adequate postmortem examination. Progress will depend on fundamental research in uterine and maternal-fetal circulatory physiology, as well as on difficult and challenging work in many other areas.

Another reason for difficulty in reducing the rate is the wide discrepancy in rules of various hospitals and laws of various states and countries regulating the reporting of perinatal deaths. In many areas, the reports of perinatal mortality are penalized by the necessity to include fetal deaths that occur so far back in pregnancy that any realistic hope of survival of the infant is virtually impossible.

Why do we not go "whole hog" and report **all** fetal deaths, including all pregnancies coming to the attention of physicians that do not terminate fruitfully, such as early abortuses, ectopic pregnancies, and hydatidiform moles? We would then have a true picture of pregnancy wastage.

If this were done, there could then also be a con-



William D. Fish, M.D., Chicago, examines scientific exhibit on "Pain Patterns—Sites and Behavior of Pain in Certain Common Diseases of the Upper Abdomen." Exhibit, prepared by a group of physicians from the Mayo Clinic, Rochester, Minn., shows the sites and behavior of pain in esophageal hiatal hernia, gastric ulcer, duodenal ulcer, gallbladder disease, and pancreatic disease, and illustrates physiologic principles underlying the transmission of pain.

sistent report of perinatal mortality presented from pregnancies in which the fetus did have a reasonable chance of survival. This report should probably cover all fetuses that weighed 1,000 grams or over.—**Arthur B. Hunt, M.D.**, professor of obstetrics and gynecology, University of Minnesota Medical School, Minneapolis.

Dacron Tubes Replace Arteries In More Than 400 Cases

Homografts Considered Obsolete

A flexible, knitted dacron tube has proved so satisfactory for the replacement of defective arteries that we have used this type of synthetic graft exclusively in more than 400 cases during the last year.

We have completely abandoned the use of homografts and now consider them obsolete.

Results of methods of treatment of the various types of aortic and arterial diseases have been increasingly gratifying. In more than 500 cases of aneurysm of the abdominal aorta, the operative mortality has been reduced from about 20 percent in our early experience to only two percent in the last 100 cases. Follow-up observations over a five-year period now clearly demonstrate a striking increase in life expectancy.

Equally gratifying are the results of these methods of treatment for occlusive diseases. In approximately 1,000 cases the operative mortality was only about two percent, and successful restoration of normal circulation was obtained in approximately 90 percent.—**Michael E. De Bakey, M.D.**, professor and chairman, department of surgery, Baylor University College of Medicine, Houston, Tex.

Advises Early Surgery for Ulcers Because of Danger of Gastric Cancer

Cancer May Spread Beyond Stomach Walls if Surgery Delayed Too Long

Early operation on all patients having a gastric ulceration is advisable because of the difficulty in differentiating an early gastric cancer with ulceration from a benign ulcer of the stomach.

Even the use of repeated x-ray studies is not an entirely successful method for determining whether or not the ulceration is due to a cancerous process, for early ulcerations of the stomach caused by cancer may disappear as a result of the rapid growth of cancer cells filling the ulcer.

Gastric cancer responds only to surgery. It can be cured in a considerable number of patients only if the lesion has not spread beyond the walls of the stomach. Once the cancer has spread beyond the walls, the end results are disheartening.

We have no objection to the practice of giving the patient a short period of medical therapy, and then operating on him if the ulcer does not heal. However, one period of medical treatment very frequently extends to a dozen three- or four-week periods of medical therapy. In the interim, all too frequently, the lesion spreads beyond the gastric wall.—**I. S. Ravdin, M.D.**, John Rhea Barton professor of surgery, University of Pennsylvania School of Medicine, Philadelphia.

B. F. Novack, M.D. (r.), VA Hospital, Dwight, Ill., stops to find out how tense he is, at scientific exhibit of the Laboratory for Clinical Physiology, Chicago. In test, performed here by Richard E. Lange, research technician, platinum foil electrodes are Scotch-taped to Dr. Novack's arm. Amount of tension is then registered on myoneuro-voltmeter, shown in center of picture. Pattern of tension can be observed on the oscilloscope at left of neuro-voltmeter. Exhibit, presented in co-operation with Foundation for Scientific Relaxation, Inc., included evidence that neuromuscular states underlie symptomatology in functional nervous conditions and to some extent also in organic diseases, including coronary infarction. Dr. Novack registered normal amount of tension.

Sandbags Placed on Abdomen to Aid Patients with Breathing Difficulties

Improved Bronchial Drainage Results

Sandbags weighing from 10 to 30 pounds are being placed on the abdomen to aid the improvement of breathing in patients with diffuse obstructive pulmonary emphysema and bronchiectasis.

The power of the diaphragm muscle was increased by having the patients breathe with the sandbags on the abdomen. This was done three times daily for periods ranging from one-half to one hour. The weight was increased gradually from 10 to 30 pounds.

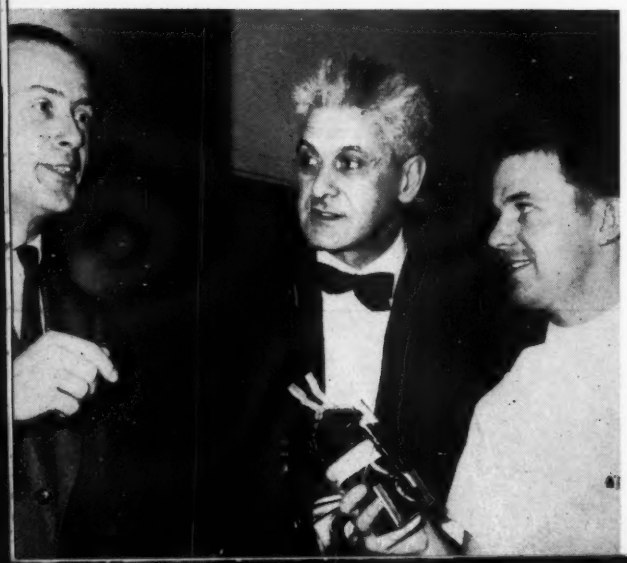
Walking exercises with a bent forward posture and lying in a head-down position also were employed. In some instances, a pneumatic breathing jacket was used.

The physiological effects of diaphragmatic breathing are found to be a decrease in minute volume of breathing by 20 to 30 percent, with maintenance of diffusion of oxygen and carbon dioxide formerly achieved by a far higher and more burdensome pulmonary ventilation.

Furthermore, aeration of the lower lobes of the lungs was followed by a more effective cough, since the dependent parts of the lungs are apt to contain

(Continued on page 128)

Top picture—first row (l. to r.): Hans Kiessig, M.D., federal medical chief, Ministry of the Interior, Schleswig-Holstein; Frau Maria Gehrt Betriebswirtin, German Hospitals Association, Dusseldorf, Germany; Walrat von Muehlen, architect, Frankfurt; Stefan A. Tarnowski, International Service, Chicago, interpreter. Second row (l. to r.): Friedrich Harting, M.D., chief medical director, Federal Ministry of Defense, Bonn; Alfred Schwalke, architect, Federal Ministry of Finance, Bonn; Fritz Blohmke, M.D., Federal Ministry of Labor, Bonn. Third row (l. to r.): Thomas J. Murphy, Johnson & Johnson Research Center; George M. Goettelman, vice-president, Society for Advancement of Management, New York City; Prof. Benno Schachner, head professor of the Technical University of Aachen; and Herman-Wolf Meyer, Technical University of Berlin-Charlottenburg, Institute for Hospital Construction.



West German Officials Begin Tour of U. S. Medical Facilities

Visit Somerset General Hospital and Nearby Plants

● Eight West German officials, on a study tour to observe American methods of hospital construction and operation, recently visited the Somerset General Hospital, Somerville, N.J., one of the original hospitals involved in the work of the Industry Advisory Board for Hospitals.

Objective of the tour, which is sponsored by the West German government, is to obtain information on air defense and military hospital planning; minimum construction and equipment for diagnostic and therapeutic uses of radioactive isotopes, and medical and operational reorganization measures which can be taken by German hospitals.

Administrator Nelson Lindley answered the visitors' questions on operating costs for the 213-bed nonprofit, short-term general hospital, which serves a community population of 125,000 in Somerset County and has an average daily census of 85 percent. Total admissions in 1957 were 10,500. The hospital has 420 employees, of whom 40 are part-time. Mr. Lindley estimated that 1958 operating costs would be approximately $2,300,000. The average length of stay was estimated at six to eight days for medical or surgical patients, and five days for obstetrical patients.

Center: Administrator Nelson Lindley (l.) welcomes group in hospital's conference room. Greeting is translated by interpreter, Stefan A. Tarnowski.

Left: Fritz Blohmke, M.D., and Prof. Benno Schachner learn about use of plastic blood pack from a Ventner Foundation exchange intern from Germany, Hans Schier, M.D., on trip through Somerset General Hospital's laboratory. Visitors also saw a demonstration of the piped-oxygen system in the cystoscopy room. Mr. Lindley explained the operation of the hospital's air-conditioning system to the three architects.

At left: In the Johnson & Johnson research laboratories, Leo Brickman, M.D., head of orthopedic research, explains the development of the resin-plaster bandage, Zoroc. L. to r.: Frau Gehrt Betriebswirtin, Dr. Kiessig, Dr. Brickman, and Dr. Blohmke.
At right: In hospital's physical therapy department, Dr. Blohmke and Dr. Harting talk to a multiple sclerosis patient.

The group showed particular interest in Mr. Lindley's explanation on funds raised in the area to support the operating costs. Average cost per day for a ward bed is $28. The hospital receives only $13 per day from the county for indigent patients. It was estimated that the hospital bore the expense of $132,000 in 1957 for care of indigents, whose average stay was two days.

Members of the group were also conducted on a tour of the Johnson & Johnson Research Center and the Ethicon plant. They were interested in information on cost savings effected with prepackaged sterile dressings, and in the use of electron-beam sterilization for catgut sutures. They were impressed by the automation in the plants, the fine-gauge precision machinery, and the expensive and extensive laboratory equipment.

The Council for International Progress in Management, Inc., New York City, is co-ordinating the U.S. tour. The itinerary includes New York City, Washington, D.C., West Virginia, Illinois, Minnesota, Colorado, California, and Texas. Among hospitals which they will visit are the Mayo Clinic, the Walter Reed Army Hospital, and the University of Illinois Research and Educational Hospital.

Above: At luncheon, given by Ethicon, are (l to r.): Walrat von Muehlen; Eric Hoffman, director of analytical research laboratories, Ethicon; George Kellogg, director of public relations, Ethicon.

At left, also at luncheon (l. to r.): Frau Maria Gehrt Betriebswirtin; Herman-Wolf Meyer; Mrs. Virginia Page, HOSPITAL TOPICS, and Fritz Blohmke, M.D.

Health Education of Patient Is Hospital's Responsibility

By Marguerite de la Vega, M.S., and Elizabeth Austin, M.D.*

• Hospitals perform a vital community service and are dependent upon community groups for support of vital parts of their programs. Hence, the attitude of the public toward hospitals is of great importance. A satisfactory hospital experience for each patient is essential. Consequently, it is not unusual for a hospital to maintain a public relations office to interpret its services to the patient and community in a satisfactory light.

Some hospitals realize, however, that an ex-patient can feel "satisfied" about his hospital experience and still not know what he needs to know about his condition, what he must continue to do, and what his limitations are, if any. Health education of the patient is not primarily concerned with public relations and has been accepted as the responsibility of the patient's doctor.

In the past the physician could carry out this responsibility very well. Practitioner and patient participated in a mutual relationship in which the doctor prescribed within the limitations of the patient's knowledge, social context, and values. The patient understood and accepted what he was to do. Such a relationship is the basic reason why medicine men are sometimes more effective in primitive cultures than the white doctors whose ways, procedures, and formulae are foreign to the natives.

With the progress of scientific medicine, patient and practitioner may grow farther and farther apart. The schism has been climaxed by the development of the hospital as a treatment center. The hospital's impersonal and fractionated services and refined procedures are the culmination of the scientific approach to medicine.[1]

Some health workers would agree with Dr. Lionel Z. Cosin, English specialist in geriatrics, who says that present hospital administration is based on the fallacy that every patient is sick unto death from the moment he enters the hospital and throughout his hospitalization.[2]

Some medical-care professionals not only act as if the patient is too sick to know what is going on, but believe that even if he were well, he couldn't possibly begin to understand what is being done to him. Nor is it always thought advisable for the patient to know. To quote from a pamphlet printed by a national organization, "Perhaps the doctor will tell you. If he doesn't, it isn't cricket to worm it out of him."[3]

From the moment the individual enters the average hospital and becomes an official patient he may be stripped of his identity and transformed from an active, mentally endowed human into a "case" surrounded by starchy uniforms and Goldbergian gadgets that can be as frightening as the Inquisition's instruments of torture.

No one would argue that patient education is not an intrinsic part of medical care. The trouble is that effective education doesn't necessarily take place just because the nurse or doctor tells the patient what to do and how to do it.

*From the Los Angeles County General Hospital. Mrs. de la Vega is the hospital's health educator, and Dr. Austin is head physician, physical medicine. She is also professor of rehabilitation and physical medicine, University of Southern California School of Medicine.

Children who are to undergo tonsillectomies receive an explanation of the operation the day before. Here a student nurse tells them what to expect. They have a tour to familiarize them with equipment and surroundings.

1. Simmons, Leo W. and Wolff, Harold G., *Social Science and Medicine*. New York: Russell Sage Foundation. 1954.
2. Cosin, Lionel Z., "A Geriatric Unit in Operation." *California's Health*, Vol. 14, No. 18, March 15, 1957.
3. Cooley, Donald G., *Why All the Mystery in Prescription?* National Pharmaceutical Council, Inc., 610 Fifth Ave., New York 20, N. Y. 1956.

A group of cardiac patients discusses low-sodium diets with a hospital dietitian. For two years the hospital had a series of group meetings for cardiac clinic patients while they waited to see the doctor. The diet instruction was one of a series of five sessions which also included talks on short-cuts in the home, permissible recreational activity, general aspects of heart disease, and the hospital team.

Furthermore, in a hospital system in which professionals are busy with their own assigned jobs, it is often assumed that the patient already knows enough about his condition, or if he has been told, that he is either not bright enough or is too lazy to follow instructions.

Hospital personnel also tend to use a professional jargon which might be called "hospitalese." Words such as "critically ill" or "may expire" leave no question in the nurse's mind as to the gravity of the patient's condition. The layman may not know that the critically ill relative is very, very sick and is in danger of dying.

Actual studies regarding the use of words by health workers in their patient conferences indicate that many patients do not comprehend the true meaning of such every-day words as protein, vitamins, and balanced diet.[4]

These introductory observations indicate that patient education in a hospital deserves more organized thought than it has had in the past.

Health education can be simply defined as the art of getting the patient to practice those habits which will help him to acquire and maintain optimum health compatible with his physical and mental condition. Taken in this context, health education can become the concern of all who provide some form of medical care. The physician can join forces with hospital personnel to see that the patient learns what he needs to know.

Evidence of this teamwork can be seen in maternity care—in the excellent group classes for prospective parents, the tour of the hospital prior to delivery, and follow-up instruction on infant care during the mother's hospitalization.

Tuberculosis sanatoria for many years have placed great emphasis on patient education. They have used individual and group teaching technics to teach patients and their families the nature of tuberculosis as well as what patient and family need to do to help the patient get well.

Although the connection between health education and medical care may not always be so clearly demonstrated as in the case of maternity or tuberculosis patients, it is important to recognize that patient education is vital in all areas of medical care, and thus needs to be carefully planned.

It may help to make an analogy between health education and medicine. Medicine is the art of applying the basic biological sciences for the benefit of the physical health of an individual. Health education is the art of applying an equally basic body of knowledge concerning the ways in which people acquire information, develop attitudes, and change their behavior.[5]

Often, even though a patient has been told and actually understands why he must follow a certain regime, he persistently refuses to do so. It is here that health education differs from public relations. The health educator would seek to find out the patient's needs and values and develop an approach consistent with them.

If we accept the position that health education is the concern of the hospital, then we must also believe that the doctor as a practitioner and administrator provides the leadership, guidance, and support necessary for the success of such a program.

From an educational standpoint here are additional reasons why a hospital can do a good job of health education:

(1) The hospital is a logical place for health education because the patient is already concerned with a health problem. He is more likely to be ready psychologically for health instruction than if he were approached in the community with the solution for a problem he has not as yet had to recognize.[6]

(2) It is sound practice to educate the patient adequately to avoid relapses and readmissions. This will result in making more room for the acutely ill.

(3) Wards and outpatient clinics lend themselves to the technic of group teaching. Group education can be used successfully to reinforce the doctor's or nurse's instruction.

Studies have shown that organized programs of patient education in institutions do succeed in edu-

(Continued on next page)

4. Waife, S. O., "Do Our Patients Understand Us?" *Amer. Journal of Clinical Nutrition*, Vol. 3, p. 421, Sept. 10, 1955.

5. Skinner, Mary Lou, and Derryberry, Mayhew, "Health Education for Outpatients." *Public Health Reports*, Vol. 69, No. 11, Nov. 1954.

6. Ibid.

cating the patient more successfully than a haphazard approach in which each professional teaches according to his inclination and dictates.[7]

Therefore, a basic and constant approach to the education of the patient is a prerequisite for any health education program seeking to improve his health habits.

The hospital staff must first agree on what is to be taught and encouraged. Even more important, however, is the fact that our way of life is influenced by the value placed on independence. The foundation of our educational theory is based on the concept of preparing the individual to function as an independent, self-determining human. Properly oriented health education can help the patient and his family to accept the responsibility for continuing the prescribed care necessary for ultimate recovery. This can best be interpreted to the patient when all personnel who care for him know how they contribute to the patient's education in relation to each other. In short, each staff member must know what, how, and when he can best teach the patient, and how others contribute to this planned program.

The goal of comprehensive rather than fractionated care is to encourage personnel to see the patient as a complete human being instead of through their own professional bias. What are the implications of this philosophy?

In the first place, administration will recognize the need to provide the kind of leadership that permits the development of a permissive climate in which staff, and sometimes patients, are consulted regarding procedures commensurate with proper health practices suitable for the patient. The staff conference in which all disciplines and departments are represented may be the place in which mutual problems are discussed and interrelated functions related to the patient will be clarified.

The accepted policy toward the patient will be practiced rather than talked about. For instance, if the hospital genuinely directs its efforts toward patient-centered care, how is this reflected in hospital routine? Visiting hours will be flexible to allow the patient to see his family when he most needs them. This is especially necessary if the patient has a family-centered culture.

Are patients given toothbrushes and water to wash with at 6 a.m. because it is more convenient for the night crew to take care of this detail, even though breakfast is served at 7:30 and from a health standpoint teeth ought to be brushed after meals?

The staff needs to accept the principle that most patients are teachable. Patients' anxieties often mirror the attitude, real or fancied, of the staff. It is not uncommon for patients to complain that nobody tells them anything about their condition or "what is wrong."

Because the patient does not exist in a hospital vacuum but comes from the community and will return to it after treatment, it is sensible for the hospital administration to acquaint itself with community resources in health education and how to use them. If the hospital interprets its health-education needs to the community, many agencies can assist it to bring health education to its patients and staff.

The local tuberculosis association, cancer society, public health department, and commercial companies can provide materials for patient and staff education. Some of these agencies, such as the tuberculosis association, have pioneered in health education and offer valuable assistance. Universities and colleges can also provide technical consultation.

Because all personnel who come in contact with the patient are potential educators, the cornerstone of a sound health-education program will be an organized inservice program emphasizing human relations. The nurse or doctor who is sensitive to the feelings of others should develop his or her own technics to communicate effectively with patients, because educational technics which have been mechanically acquired without insight will not guarantee teaching success.

Superior health habits also should be stressed in an inservice training program, because no one can be expected to teach good health habits if he doesn't believe in them or practice them. It is wise to remember that personnel do not necessarily practice good health habits just because they work in hospitals.

A planned health-education program may well incorporate the technics long familiar to education and public relations. Often these two will overlap.

For example, publications that tell patients about hospital routine not only interpret the hospital to the patient, but also help to set him at ease in a strange world, and thus may assist him psychologically to accept further instructions relating to his health. The preparation of these publications will take into account such principles as readability, attractiveness, and motivations, all of which are pertinent to education and public relations.

One must not forget, furthermore, that the conduct of the staff toward the patient interprets the hospital to him in a positive or negative manner. It is also necessary for the staff to understand that success in patient teaching will depend on how the patient feels about the staff.

Adequate health education of the patient doesn't just happen. For better or worse, patients constantly form opinions and base their assumptions and health practices on their interpretation related to their values and experiences. The hospital has the opportunity to teach constructive health habits. The effectiveness of a hospital's health-education efforts can be measured by the number of persons it succeeds in rehabilitating to useful lives and the number of readmissions it succeeds in preventing.

7. Wandelt, Mabel, "A Planned Program of Education Versus Incidental Instruction for Patients Receiving Treatment for Tuberculosis." *Amer. Review of Tuberculosis*, Vol. 7, No. 3, Sept. 1954.

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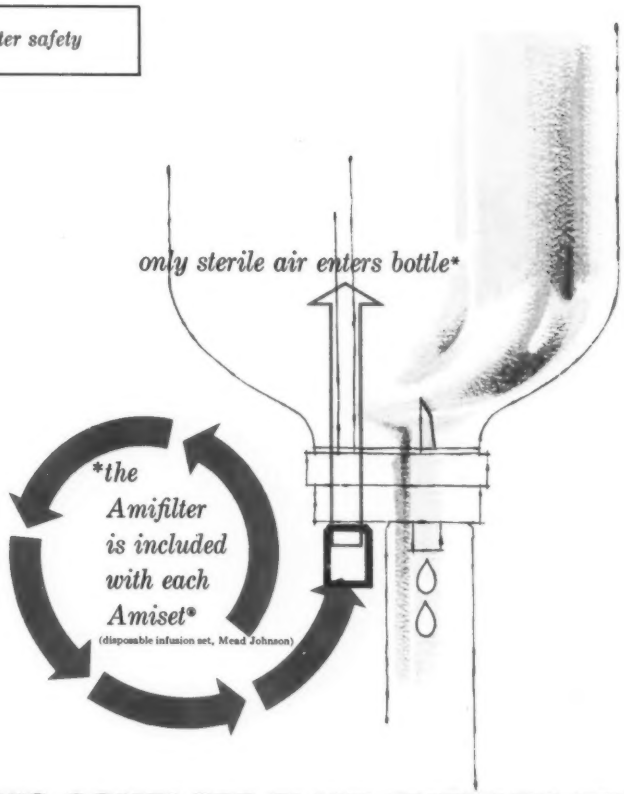

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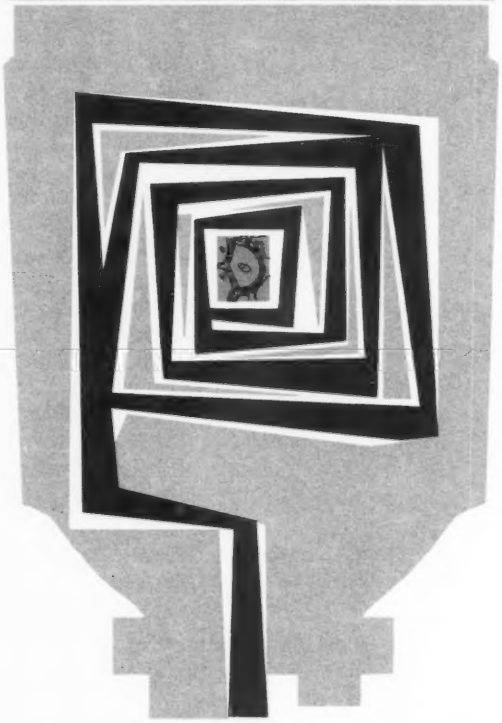

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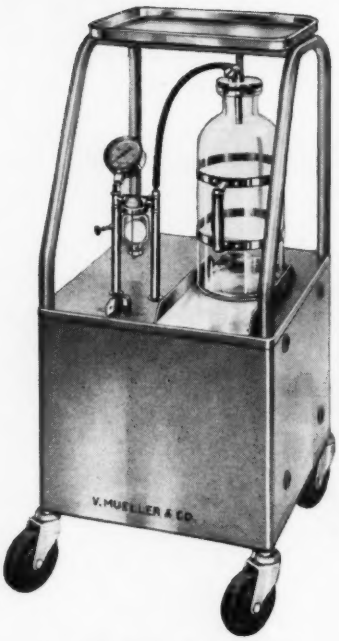

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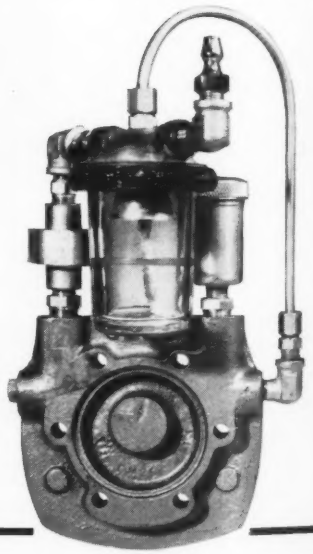

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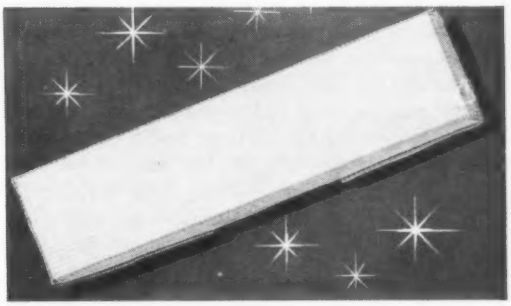

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Hospital Laundry Operations

Another in a series on hospital organization, based on lectures given at meetings of the Association of Western Hospitals and allied state groups

By John H. Gorby*

I. Management Controls

• The laundry department of a hospital is responsible for providing an adequate supply of clean linen, as economically as possible, for use in the different departments of the institution. The collection and processing of soiled linen, and the storage and delivery of clean linen to its point of use usually are the responsibility of the laundry. In addition, the laundry also may be required to maintain an adequate amount of linen in circulation, and to manufacture special linen articles used in the institution. Carrying out these operations successfully requires first, effective management controls.

The question is often asked whether or not a laundry is essential for hospitals of less than 200 beds. The answer is determined by only one fact—cost. If laundry service can be purchased for less than it costs the hospital to do the work, then such service should be purchased. However, all elements of cost should be computed in determining the total cost for both hospital laundry operation and laundry service.

There are many hidden costs in the operation of the hospital's own laundry. Some of these are: steam, water, electricity, maintenance, administration, housekeeping, and plant and equipment depreciation.

There are also hidden costs even when the hospital purchases its laundry services. These include the cost of the personnel necessary to count linen in and out, and the losses inherent in the larger inventories that hospitals must have if they do not do their own laundry. Unfortunately, many hospitals do not maintain accurate laundry cost information.

It is impossible to give a straight "yes" or "no" answer as to whether or not a hospital should do its own laundry. Each hospital must make this decision after considering all the facts. The following discussion, particularly the section on costs, is designed to assist the hospital in arriving at this decision.

ORGANIZATION

Often, the laundry is so organized that it is difficult, if not impossible, to exercise controls. For instance, there may be a lack of coordination between the laundry, the linen room, and the sewing room. This lack may stem from the fact that only one of the three activities, the laundry, is supervised by the laundry manager, while the linen room and sewing room are supervised by the executive housekeeper.

If more than one person has administrative responsibility for the three activities, administrative control usually is lacking. Establishment of a definite line of administrative control can best be accomplished by making the laundry department responsible for the operation of the laundry, the linen room, and the sewing room. In this way, the laundry manager becomes administratively responsible for the entire operation.

In a small hospital of 150 beds or less, the laundry manager usually reports to the hospital administrator. In larger hospitals of 200 beds and over, the laundry manager often reports to the physical plant superintendent or the assistant administrator responsible for the service departments.

When the operation is relatively large, operating responsibility for the linen room, the sewing room, and the laundry may each be assigned to a foreman or group leader. Such foremen or group leaders then would report directly to the laundry manager.

ANALYSIS OF OPERATIONS

In order to survive in highly competitive markets, industry has found it necessary to conduct carefully detailed studies of its production procedures in order to use labor more effectively, and to control and reduce costs. The success of these studies has been due largely to the fact that many of the jobs are of a repetitive nature. A repetitive job, by definition, is one consisting of a number of operations and movements that are performed in the same sequence, over and over again.

*Director of Research, Project W-34, U. S. Public Health Service, San Diego, Calif.

In certain areas of the hospital, however, routine industrial methods of analysis will not directly apply. These are areas in which direct patient contact is maintained, such as the nursing division.

Many activities performed in the laundry, however, are of a repetitive type. Examples are sorting soiled linens, loading and unloading a wash wheel, feeding linens into the flatwork ironer, and pressing nurses' uniforms and doctors' coats. It is in these areas that the controls used by industry may be applied.

In the initial evaluation of a laundry, information concerning the staffing, production, and cost of operation will reveal problem areas.

Staffing

Analysis of the number of personnel working in the laundry and their assignment by function will provide the necessary information to determine whether the laundry is properly staffed for the amount of poundage produced. For example, the staffing of a laundry recently studied was analyzed in the following manner:

Function	Personnel Assigned
A. Receive and weigh dirty linens; operate washers and extractors	5
B. Shake out and separate wet linens; iron, fold, and stack flatwork	12
C. Fluff-dry, fold, and sort	2
D. Press uniforms, coats, pants, etc.	7
E. Mark personal laundry, fold, and sort	2
F. Store and dispense clean linens	3
Total personnel	31

Production

Production information will indicate excessive use of linen in the hospital. By assembling figures for the total annual poundage produced, the annual poundage produced for patient care and for surgical use, and the annual number of patient days, it is possible to determine the amount of linen used per patient day and per surgical operation.

For example, one hospital provided 110,000 patient days of care and handled 5,900 surgical operations last year. The laundry produced 1,700,000 pounds of linen, of which 1,550,000 pounds was for patient care and 150,000 pounds, for surgical use. Therefore, the following breakdown could be determined:

$$\frac{1{,}700{,}000 \text{ pounds}}{110{,}000 \text{ patient days}} = 15.5 \text{ total pounds produced per patient day.}$$

$$\frac{1{,}550{,}000 \text{ pounds}}{110{,}000 \text{ patient days}} = 14.1 \text{ pounds produced for patient care per patient day.}$$

$$\frac{150{,}000 \text{ pounds}}{5{,}900 \text{ surgical operations}} = 25.4 \text{ pounds produced per surgical operation.}$$

Data compiled by the American Hospital Association indicate that linen usage averages from 10 to 15 pounds per patient day. A survey of 100 hospital laundries showed that each surgical operation required from 20 to 32 pounds of linen.

Costs

Cost information, such as labor expense and other direct expenses for supplies, power, heat, and light will permit the determination of figures for unit cost of operation. The annual costs for payroll and other direct expenses are usually available from the accounting department.

The cost per pound of producing laundry may be obtained by dividing the direct operating expense (labor and other direct expenses) by the annual pounds produced. For example, a laundry producing 1,700,000 pounds of linen annually and having a direct operating cost of $71,000 produces laundry at a cost of $71,000 or $0.042 per pound.

1,700,000

Information concerning staffing, production, and cost of operation is vital for the initial analysis of the laundry operation. In addition, information about the daily operation is needed to enable the laundry manager to exercise greater control over the entire laundry function.

LAUNDRY UNITS OF WORK

The laundry operation may be subdivided into the following units of work:

1. **Presorting**—includes the classification or sorting of soiled linens into specific categories before the start of actual laundering procedures. The weighing of all soiled linen by the "sort classification" is included in this unit of work.

2. **Washing**—includes the loading of the washer, the running of the prerinse, wash, and rinses, and the unloading of the wash wheel and filling of extractor baskets.

3. **Extracting**—includes the transportation of the extractor baskets into the extractor, the operation of the extracting cycle, and the unloading of the extractor baskets from the extractor.

4. **Condition tumbling**—includes the unloading of the extractor baskets and filling of the conditioning tumbler, the tumbling of the clean linen, and the emptying of the linen from the tumbler onto processing tables.

5. **Flatwork pressing**—includes prepositioning flatwork linen taken from the process tables, feeding the linen into the flatwork ironer, removing the pressed linen from the ironer (automatically folded), and transporting the completed flatwork to the linen room.

6. **Tumble-drying**—includes transporting tumble-dry linen to the drying tumblers, loading the linen into the tumblers, drying the linen, removing it from the tumblers, and transporting the dry linen to the linen room for folding.

(Continued on next page)

7. Pressing—includes transporting the linen to the pressing department, pressing the garments on pressing units, folding, or storing the pressed garments on delivery racks, and transporting the pressed garments to the uniform room or linen room.

8. Linen room work—includes receiving clean linen from the laundry, checking and counting linen by classification, storing clean linen for distribution, and transporting clean linen to its point of use.

PRODUCTION INFORMATION

Since the laundry operation can be subdivided into these eight separate, clearly defined units of work, it is possible to obtain specific production information, which is essential for managing the operation effectively. This information will be helpful to the laundry manager in these ways:

1. Determining the work load required each day in the laundry.

2. Reassigning laundry personnel as the work load changes.

3. Developing and evaluating possible changes in the physical plant of the laundry.

4. Comparing present production data with past performance.

By recording the weight of all soiled laundry by classification per day, the production hours of each employee in each classification per day, and the hospital daily census, it is possible to determine the following information:

Total pounds produced per operator hour.

Total pounds produced per patient day.

Total flatwork pounds produced per operator hour.

". . . but the old Wimberly Hospital never once raised its rates—right up to the day it went bankrupt!"

Total tumble-dry pounds produced per operator hour.

Total presswork pounds produced per operator hour.

Percentage of total production of flatwork produced.

Percentage of total production of tumble-dry produced.

Percentage of total production of presswork produced.

This information will assist the laundry manager in adjusting his daily operation of the laundry to meet demands and in pinpointing operational problems before they become bottlenecks. A summary of laundry production information, either on a weekly or a biweekly basis, should be prepared and distributed to the different management-level positions in the hospital having a use for the information. Included in this group may be the hospital superintendent, the comptroller, the director of nurses, and the director of maintenance. The form shown on page 39, the biweekly laundry production report, illustrates one method of presenting this information.

Once production information regarding the units of work in the laundry has been obtained, determination of costs constitutes the next area of consideration in the development of essential information for the control of the laundry operation.

COST INFORMATION

Certain information regarding the cost of the laundry operation is needed to obtain an effective cost picture. The kinds of information which have been found most helpful are these:

1. Weekly record of the labor cost for each employee within each classification.

2. Weekly record of the amount of supplies used, such as soap, bleach, sour, starch, bluing, and press covers.

3. Monthly record of steam, water, heat, and electricity used. Separate meters should be installed for recording the use of these elements in the laundry.

4. Monthly record of the depreciation of equipment and physical plant.

The recording of the above cost information, on a weekly or monthly basis as suggested, will provide the required information to determine the following costs:

1. Total weekly labor cost per pound for processing the laundry.

2. Total weekly labor cost per pound by classification of laundry processed.

3. Total monthly cost of the laundry operation.

4. Total monthly cost per pound for processing laundry.

(Continued on page 40)

Biweekly Laundry Production Report

FOR PERIOD _____ HOSPITAL CENSUS _____

	HOURS	POUNDS	POUNDS PER OPERATOR HOUR
Presorting			
Presorting Production Hours			
Pounds Presorted			
Pounds Presorted Per Operator Hour			
Washing			
Washing Production Hours			
Pounds Washed			
Pounds Washed Per Operator Hour			
Extracting			
Extracting Production Hours			
Pounds Extracted			
Pounds Extracted Per Operator Hour			
Flatwork			
Flatwork Production Hours			
Pounds Produced			
Pounds of Flatwork Per Operator Hour			
Pounds of Flatwork Per Patient Day			
Tumble-Dry			
Tumble-Dry Production Hours			
Pounds Produced			
Pounds of Tumble-Dry Per Operator Hour			
Pounds of Tumble-Dry Per Patient Day			
Presswork			
Presswork Production Hours			
Pounds Produced			
Pounds of Presswork Per Operator Hour			
Poundage Charged to Hospital			
Pounds of Presswork Per Patient Day			
Linen Room			
Linen Room Production Hours			
Pounds Produced			
Pounds Produced Per Operator Hour			
Total			
Total Production Hours			
Total Pounds Produced			
Total Pounds Per Operator Hour			
Total Pounds Charged to Hospital			
Total Pounds Per Patient Day			

(Continued from page 38)

5. Basic cost information for evaluating proposed physical changes in laundry layout.

Production and cost information represent valuable management controls available to the laundry manager to assist him in his daily operation of the department. Although the controls, themselves, cannot be used as a substitute for good *direct* supervision, they can assist the laundry manager to provide better overall control of the operation.

Linen in Circulation

Another area for consideration in developing information for use in controlling the laundry operation is determination of the amount of linen in circulation. Holding the soiled linen level to a minimum does not always make allowance for an adequate supply of clean linen for use in the institution. Often, shortages of supply exist. Some of the common problems found in hospitals with respect to shortages of linen in circulation are the following ones:

1. Misuse of linen. Selecting the wrong type of linen, such as in using unstained linen for dermatology cases instead of the stained linen provided for such cases, or using the wrong linen classification, such as choosing a large sheet when a smaller sheet is indicated, will create supply shortages.

2. Theft. Linen removed from circulation by theft must be replaced periodically or shortages of supply will develop.

3. Overuse of linen. Extravagant use of clean linen, in the nursing division or in other areas of the hospital, will create a shortage in supply. This problem may be uncovered by calculating the pounds of laundry used per patient day on a daily basis and keeping a lookout for upward trends.

To prevent supply shortages, therefore, it is necessary to determine the amount of linen in circulation at specified periods of time. An accurate physical count will immediately indicate a shortage or an oversupply of linen items in circulation. Physical inventories should be conducted as often as necessary, according to the experience of the institution.

Experience has indicated that if the annual replacement of linen in circulation is above 35 per cent, control is lacking. If the annual replacement is under 35 per cent, however, the cost of maintaining the present controls may exceed the cost of the linen replaced.

Accurate records of linen withdrawn from circulation because of wear or stain should be maintained, along with records of replacement for elimination of linen shortages.

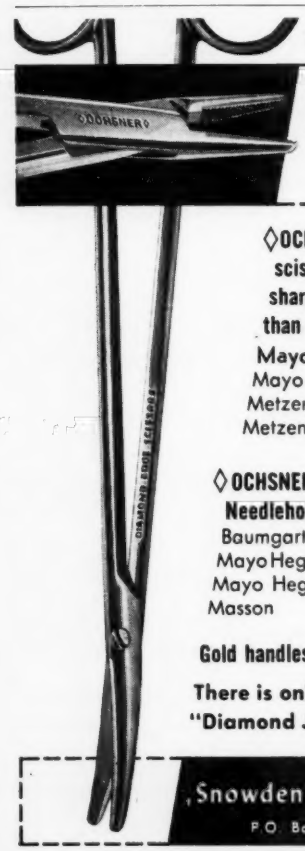
All linen should be marked with the institution's name for identification. Sample studies should be conducted periodically to determine the approximate life of linen in circulation. It is desirable to select a sample of linen, mark it for the purpose of the study, and gather the data from this sample, rather than attempting to study the life of all linens at one time.

Sewing Room Items

Generally, no attempt is made to determine the cost of articles manufactured by the institution for its own use. Nevertheless, all items made in the sewing room should be priced. The labor cost and costs of all materials should be included. These costs should be compared periodically with the current market prices to determine the most economical way of procuring the articles.

Similarly, those items which could be manufactured in the sewing room, but are not, should be made in small quantities and priced. Comparisons then should be made with the market prices. Cost information of this nature will help to determine the feasibility of expanding or contracting the manufacture of linen items in the sewing room.

Part II of this article, discussing development of production controls for the laundry, will appear in the May issue. The laundry is the second department to be considered in the current series on the operation of service departments in the hospital. Dietary and food services were covered in the March issue; future articles will take up maintenance and repair, housekeeping, utilities, and purchasing and stores.



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Regional Differences in U. S. Hospitals

By Louis Block, Dr. P.H.

Fourth in a series

● There are regional differences in the numbers and kinds of hospital facilities and services available, and in their utilization. The role of the regional hospital can best be portrayed by studying it as a part of the total United States picture, and as an entity in itself.

The largest number of admissions in:

1. All hospitals are in the East North Central region.

2. Short-term general hospitals are in the East North Central region.

3. Nonprofit short-term general hospitals are in the East North Central region.

4. Proprietary short-term general hospitals are in the West South Central region.

5. Governmental (excluding federal) short-term general hospitals are in the East North Central region.

6. Long-term general hospitals are in the Middle Atlantic region.

7. Psychiatric hospitals are in the East North Central region.

8. Tuberculosis hospitals are in the East North Central region.

9. Federal hospitals are in the South Atlantic region.

By far the greatest majority of admissions in all regions is in short-term general hospitals. Most of these admissions are in nonprofit short-term general hospitals.

These facts would indicate a shorter length of patient stay in general hospitals than in psychiatric or tuberculosis hospitals.

*Based on the 1956 Administrators' Guide Issue, *Hospitals*, Journal of the American Hospital Association.

*Number of Admissions**

1. The Region as a Part of the United States

Percent of	New England	Middle Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific	Total
Total	6.2	18.7	14.0	20.3	6.5	9.6	10.0	4.3	10.4	100.0
Short-Term General	6.3	19.3	13.4	21.2	6.4	9.9	9.7	4.0	9.8	100.0
Nonprofit Short-Term General	7.7	22.1	11.3	23.5	4.8	10.7	6.6	4.1	9.2	100.0
Proprietary Short-Term General	1.1	10.8	20.3	4.6	13.3	5.0	29.7	2.0	13.2	100.0
Gov'tal (Excl. Federal) Short-Term General	3.1	12.2	18.8	19.2	9.8	8.8	13.0	4.2	10.9	100.0
Long-Term General	8.4	30.5	13.9	20.5	2.4	3.8	3.1	3.5	13.9	100.0
Psychiatric	8.5	18.0	12.1	21.2	7.4	8.5	8.2	3.5	12.6	100.0
Tuberculosis	5.7	15.3	13.8	29.3	7.1	6.7	8.1	2.7	11.3	100.0
Federal	5.1	10.9	21.7	8.2	8.1	7.2	13.9	8.4	16.5	100.0

2. The Region as an Entity in Itself

Percent of	New England	Middle Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific
Short-Term General	91.1	93.2	87.1	94.4	89.2	93.1	88.8	84.7	86.0
Nonprofit Short-Term General	81.1	77.5	53.0	76.0	48.3	73.2	44.2	63.8	58.2
Proprietary Short-Term General	1.2	4.0	10.1	1.6	14.1	3.6	21.0	3.2	8.9
Gov'tal (Excl. Federal) Short-Term General	8.8	11.7	24.0	16.8	26.8	16.3	23.6	17.7	18.9
Long-Term General	1.0	1.2	0.7	0.8	0.3	0.3	0.2	0.6	1.0
Psychiatric	2.0	1.4	1.3	1.6	1.7	1.3	1.2	1.2	1.8
Tuberculosis	0.4	0.3	0.4	0.6	0.5	0.3	0.3	0.3	0.5
Federal	5.5	3.9	10.5	2.6	8.3	5.0	9.5	13.2	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Review of Hospital Law Suits

• Pharmacist With Poor Eyesight

By Leo Parker
Attorney at Law

• According to a late higher court decision, one who works as a pharmacist, or otherwise dispenses drugs in a hospital, cannot hold a position with a state institution if his eyesight is poor.

For example, in Logan v. Civil Service Commission, 119 N. E. (2nd) 754, it was shown that a woman named Logan acted as a pharmacist and registered nurse in the State Anna Hospital. She administered drugs and injections, read the various directions, and made medical records.

According to the testimony, Logan had a visual acuity, with her glasses, of 20/70 in the right eye, and 20/200 in the left eye. This vision the doctor was unable to improve with any lenses. The doctor explained that 20/70 in the right eye indicated an impairment of vision representing 36 percent visual loss and 64 percent visual deficiency; and that the 20/200 vision in the left eye represented an 80 percent visual loss, and was tantamount to industrial blindness. The doctor also stated that it would be extremely difficult, if not impossible, for Logan to perform the duties required of her at the Anna Hospital.

The Civil Service Commission discharged Logan from her position in the hospital. Logan appealed to the higher court which approved her discharge, and said:

"From the review of the evidence, the findings of the commission that plaintiff's (Logan's) eyesight was insufficient to enable her to safely perform her duties cou'd not possibly be deemed to be manifestly against the weight of the evidence. The judgment and the order of the Civil Service Commission is reinstated."

RELIANCE ON BOTTLE LABELS

According to a late higher court decision a pharmacist in a hospital, or in a drug store, who incorrectly fills a prescription is responsible, even though the bottle from which he took a poisonous substance was mislabeled.

For instance, in The State of California v. Stuart, 295 Pac. (2nd) 426, the testimony showed the following facts: A man named Stuart was employed by the Ethical Drug Co. He obtained a B.S. in chemistry from Long Island University, Brooklyn, N. Y., and a B.S. in pharmacy from Columbia University, New York City. He came to California in September, 1945, was licensed as a pharmacist in 1946, and had been employed since that time. He began his employment with Ethical Drug Co. in April, 1954.

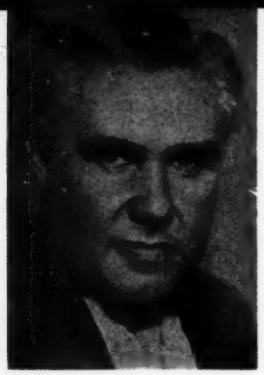
On or about July 17, 1954, a man named Irvin Sills presented to Stuart a prescription written by a Dr. Goldstein and intended for use as a sedative for Sills' eight-day-old child. It called for eight grains sodium phenobarbital, three drams sodium citrate, two ounces simple syrup, one ounce aqua peppermint, and four ounces aqua distillate q.s. The medicine was administered to the child and caused his death soon afterwards.

In subsequent litigation the testimony showed that Stuart had taken three drams from a bottle labeled sodium citrate. After the child's death, a four-ounce sample was taken from this bottle labeled sodium citrate. It was analyzed by a chemist who testified that he found it contained sodium nitrite. It was the sodium nitrite which caused the child's death.

The evidence concerning the appearance of the two substances stated that both are composed of small sugarlike crystals; sodium citrate is white; sodium nitrite may be white or may have a slightly yellowish tinge. There was no evidence that the difference could be determined by observation or without chemical analysis. On the contrary, there was evidence that the drug was not homogeneous and could not be identified visually as one substance or the other.

Stuart was arrested and tried on the charge of manslaughter, even though he proved that the bottle which contained sodium nitrite was plainly labeled sodium citrate. Stuart testified that when compounding the prescription he read the label on the bottle very carefully to be sure that he used sodium citrate. Nevertheless, the higher court convicted Stuart of manslaughter, and said:

"The prescription called for the addition of pure sodium citrate; as filled there was substituted sodium nitrite. . . . When a pharmacist fills a prescription he must know what he is putting into it. If in using substances from containers he relies upon the labels, he is bound to know whether they correspond with the contents of the bottles. If the labels are incorrect, and this leads to the use of a wrong ingredient, the fact that the mislabeling was not his own but the act of a third person is not a defense. His responsibility is absolute."



Consultant's Corner

By John G. Steinle

Q. We are studying the feasibility of switching from hand-posting to automatic methods of data processing. Has anything been published on the use of such methods in the hospital field?

A. Little has been published regarding use of electronic data processing in hospitals. I have raised the question with specialists in these methods and they state that the problems involved in adapting to hospital operations are typical of those involved in any conversion, in any field. I would, therefore, suggest the following general references:

Boz, M. W.: "How Your Firm Can Organize an Electronic Conversion Program." *Management Methods*, January, 1954.

Craig, H. F.: "Administering a Conversion to Electronic Accounting." Case Study, Harvard Graduate School of Business, 1955.

American Management Association: "Electronics in Action." Special Report No. 22, 1957.

American Management Association: "Establishing an Integrated Data Processing System." Special Report No. 11, 1956.

American Management Association: "Pioneering in Electronic Data Processing." Special Report No. 9, 1956.

Q. Should a fund drive be held up because of the unsettled stock-market conditions?

A. Be sure to consult your fund-raiser on this problem. We have discussed this question with a number of specialists in the field. The general reaction seems to be that the answer depends on how far the plans for your fund drive have advanced. If plans are well advanced, you would probably do more harm than good by waiting. Many people will be inclined to mistrust a program which seems to be subject to such factors as stock-market fluctuations.

If you are in the early planning or discussion stage a "wait-and-see" attitude might be advisable.

Q. Do you have any time standards for individual steps or processes in the laundry?

A. The following standards were developed for a specific laundry operation. These standards were determined after the specific method of operation best suited for that laundry was placed in operation. Each laundry has its own "norm" for each operation. This data is given not as a set criteria, but as an example of how laundry standards can be developed by careful analysis of all operations.

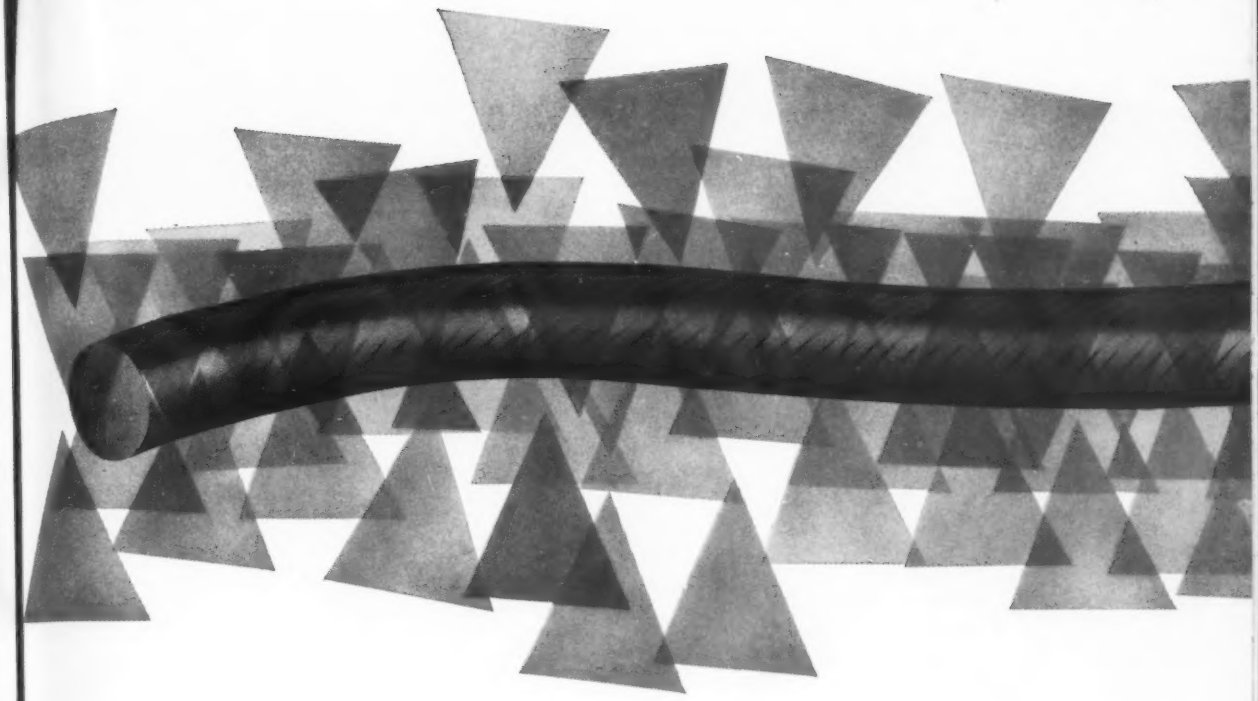
Operation	Unit	Standard Time Required Per Unit (Minutes)	Units Produced Per Hour
Sort soiled linens	100 lbs.	9.000	6.70
Load and unload automatic washer	100 lbs.	2.650	22.60
Load and unload extractor	100 lbs.	2.300	25.10
Shake out flatwork (sheets)	100 lbs.	11.200	5.40
Iron flatwork, 8-roll ironer			
Sheets (82 ft./min.)	100 lbs.	39.800	1.51
Pillowcases (large) (40 ft./min.)	100 lbs.	52.000	1.15
Load and unload dryer	100 lbs.	5.000	12.00
Fold patients' gowns	1	0.536	112.00
Pressing			
Nurses' uniforms (long sleeves)	1	2.846	21.20
Doctors' coats (long)	1	3.000	20.00
Doctors' shirts	1	2.222	27.00
Doctors' pants (white duck)	1	2.070	29.00

Q. Should nursing service have any responsibility for housekeeping?

A. Effective housekeeping requires complete co-operation and understanding from nursing service. In a hospital, as in a home, effective housekeeping cannot be achieved without the participation of everyone concerned. The executive housekeeper should make rounds regularly, not only with the director of nursing service but with the head nurse on each floor. Only in this way can effective communications be achieved.

Q. We do a great deal of cystoscopy work. What method do you recommend for complete sterilization of the cystoscope?

A. The only method which will adequately sterilize the cystoscope and not harm the equipment is use of an ethylene-oxide or other gas sterilizer.



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Electron sterilized ETHICON Surgical Gut is approximately 10% stronger, more pliable, easier to handle than ordinary surgical gut. High temperatures used in heat sterilization are eliminated—yet the lethal ELECTRON BEAM dose is 40% greater than that required to kill even the most resistant micro-organisms.

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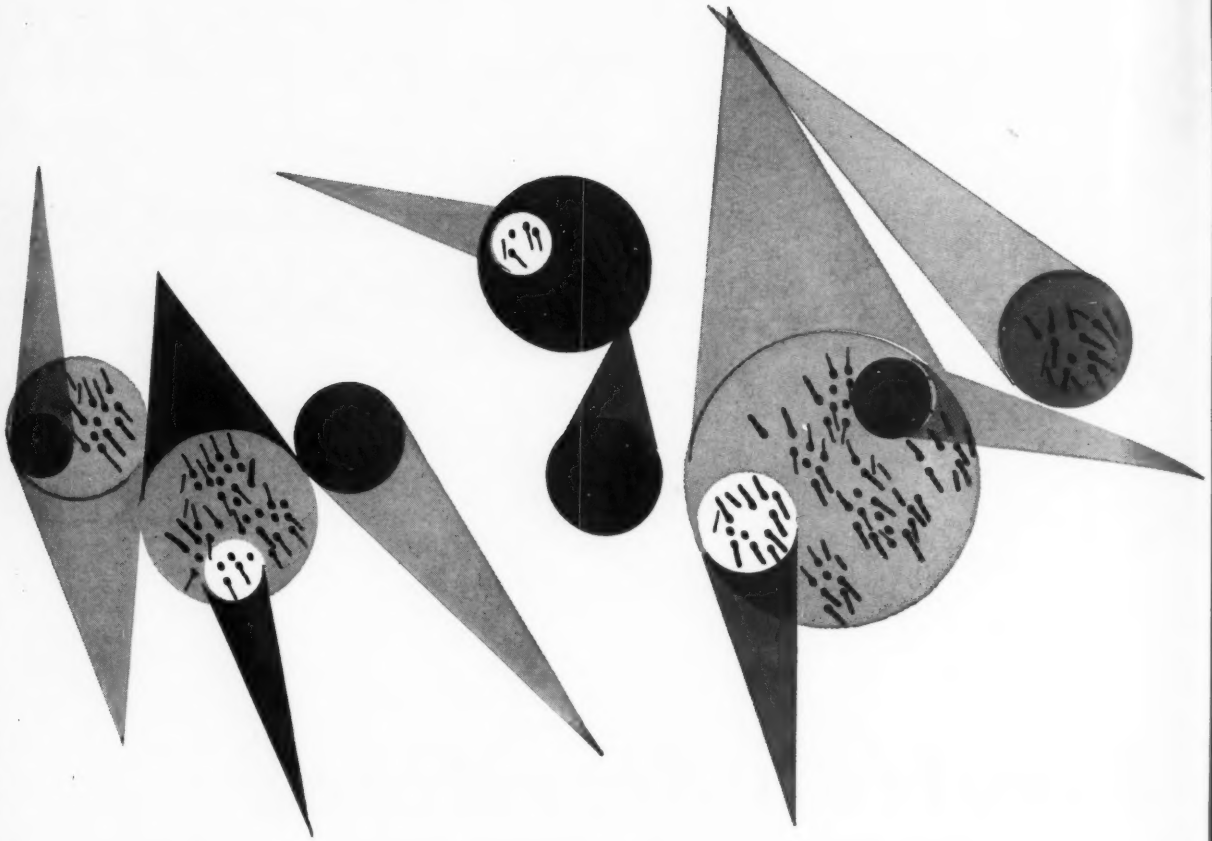

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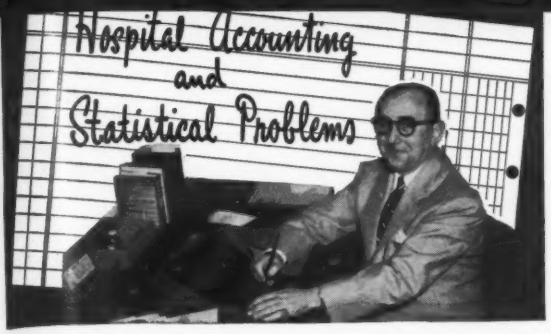


By David H. Tarlow, C.P.A.

Senior Partner, D. H. Tarlow & Co.

Hospital Accountants and Auditors, New York City

Q. Do you have any information as to how different hospitals handle their nursing payrolls? Are all the graduate nurses listed on a separate time sheet, or are they included in their own departments? If they are on a separate time sheet, who keeps the record of the time? We have a problem in allocating this responsibility and would like to know what others are doing.

A. We assume that by different departments you mean the operating rooms, delivery rooms, nursery, and other departments to which the graduate nurses may be assigned. We note that your hospital has a complement of 235 beds and 32 bassinets. The following is presented for your guidance:

1. Since departmental, as well as unit, cost data is required by administration today, nursing salaries are recorded in the departments to which the nurses are assigned, regardless of whether the nurses are graduates, practical nurses, or auxiliary personnel.

2. Time records are kept by the nursing supervisor or the nursing office. They are often prepared from time cards and summarized into departmental categories.

3. After approval by the nursing department, with respect to time worked and time off for which payment is requested, the time records are sent to the personnel office.

4. The records are then checked in the personnel office as to allowable sick time, holiday time, or vacation time and forwarded to the payroll department.

In the smaller hospital the function of checking the records is sometimes assumed by the payroll section or accounting department.

* * * * *

Q. What type of daily summary report should the controller submit to the administrator with respect to the financial status of the hospital?

A. A daily report would be helpful if it would include:

1. Cash position.

2. A report of patients discharged during the previous day, listing, for each patient, total amount of the bill, payments made, balance due, and what arrangements have been made for collection of balance due, if any.

3. A census report, showing admissions, discharges, and days of care, for the previous day. This figure will list the patient census by categories.

* * * * *

Q. Can you give me any suggestions as to the type of accounting and statistical data the controller should submit in a daily report to the administrator? We have a 130-bed hospital.

A. Such a report would be helpful if it would include the following information:

1. Cash position.

2. A daily discharge analysis showing the patients discharged during the previous day, the balances due from such patients, and what provisions have been made for the payment of such balances.

3. A daily reconciliation of accounts receivable.

4. Number of patients in the hospital.

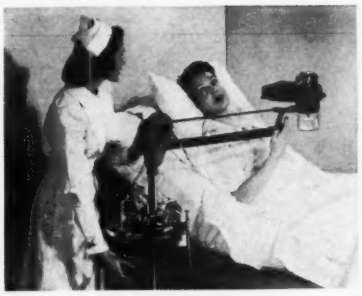
* * * * *

Q. In the February issue of HOSPITAL TOPICS you advised that the method for determining the average length of patients' stay is to divide the sum of the discharged patients into the total patient days. We have been finding the average length of stay by dividing the total number of patients treated into the total patient days. The total patients treated consists of those patients in the hospital on the first day of the month plus those admitted for the period under review. We do not count in our discharges those remaining in the hospital on the last day of the month. If we did, the total would be the same as those treated, and perhaps we are saying the same thing in different words. Please comment on this.

A. The New York State Department of Social Welfare, in its statistical handbook of hospital inpatient services published in 1936, points out that the method used at your institution is satisfactory. The American Hospital Association *Manual on Uniform Hospital Statistics*, Section 1, recommends, as a practical formula for general hospitals, that the average length of stay be determined by dividing the sum of discharges and deaths for a given period into the total days of care given for that period.

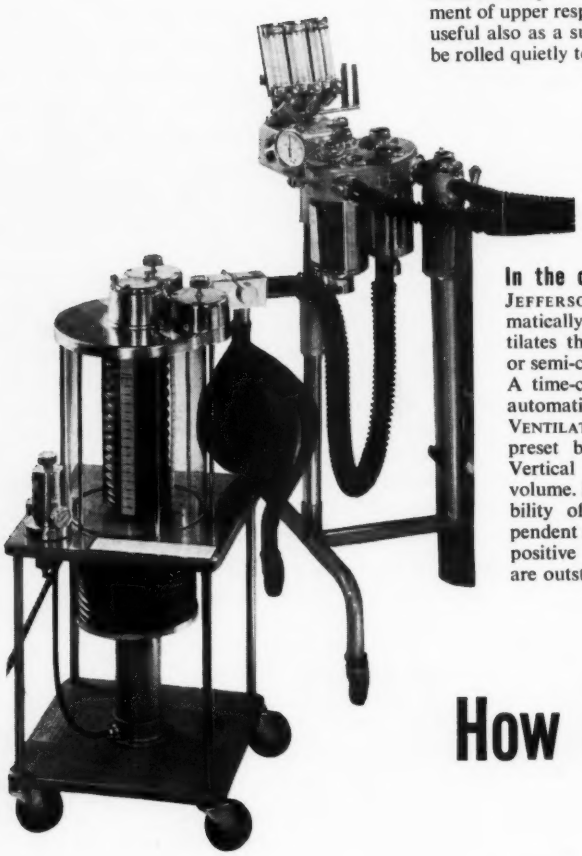
It is demonstrated that in long-stay hospitals, such as chronic or mental, this procedure would not be accurate because of the low turnover of patients. In these hospitals it would be more accurate to determine the average length of stay by adding the total care given all discharged cases for a particular period and dividing this figure by the number of cases discharged for the related period.

In our opinion, the method selected in any institution for determining this facet of statistical data should be predicated on the use for which this information is intended. If you desire only to compare relative fiscal periods at your own hospital, then either of the foregoing methods would be acceptable. However, if you wish to compare your data with those of other hospitals, then it would be advisable to use the method recommended by the American Hospital Association—that is, dividing discharges into the total days of care for a given period.



Inhalation therapy: The HYDROJETTE®, is an ideal open-air humidifier for treatment of upper respiratory complications, useful also as a suction pump, and may be rolled quietly to the patient's bedside.

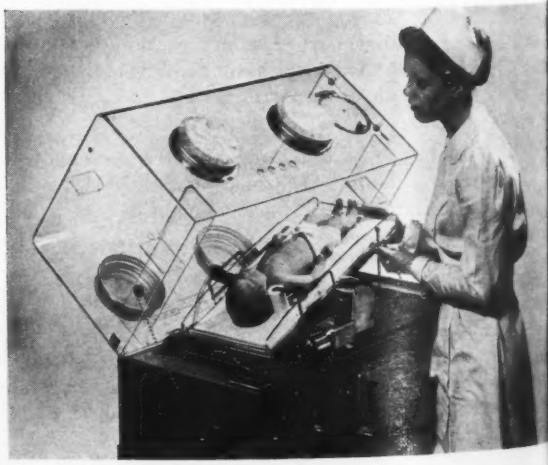
In the pediatric ward: First "cool-vap and oxygen tent, the CROUPETTE® standard equipment in 83% of all h pitals in the United States accredited residency training in pediatrics.



In the operating room: The JEFFERSON VENTILATOR automatically and continuously ventilates the patient under closed or semi-closed circuit anesthesia. A time-cycled, pressure-limited, automatic device, the JEFFERSON VENTILATOR maintains pressures preset by the anesthesiologist. Vertical scale shows delivered volume. Simplicity and dependability of operation with independent controls for phase, rate, positive and negative pressure are outstanding features.

Regulated suction: The rugged, portal DIA-PUMP is a diaphragm-type suct pump. Designed for continuous, hea duty operation, it cannot jam, rust "freeze," even from condensed or as rated moisture, and is equally valuable a compressor to operate the CROUPETT

How AIR-SHIELDS products can



In postnatal asphyxia: The ISOLETTE® ROCKER is designed for use in the nursery for non-traumatic treatment of the apneic newborn. A mechanical application of the Eve method of resuscitation, the ISOLETTE ROCKER provides gravitational stimulation of the circulation and passive, rhythmic activation of the diaphragm to aid ventilation within the optimal environment of the ISOLETTE incubator.

In the nursery: The ISOLETTE® infant incubator provides the life-saving benefits of true isolation with accurate control of humidity and temperature. Only the ISOLETTE continuously draws in fresh, pathogen-free air from outside the hospital, protecting the infant from air-borne infections even when the iris ports are open. The ISOLETTE is designed to perform, and built to last. The ISOLETTE is used in teaching hospitals affiliated with more than 95% of medical schools and colleges throughout the United States and enjoys wide acceptance in 70 other countries as well. First in its field, the ISOLETTE has been widely copied but never equalled.

...an help save lives in your hospital

...n the nursery, the operating or delivery room, the ...ediatric ward, and for general use throughout the ...ospital, AIR-SHIELDS equipment is helping save lives ...nd comfort patients in many ways.

...he ISOLETTE® infant incubator and isolation unit pro...ides the optimal environment necessary for survival of ...he tiny or critically ill infant, and minimizes the danger ...f cross-infection in the nursery. The CROUPETTE® and ...YDROJETTE® are unexcelled for the convenient, safe ...dministration of cool-vapor therapy, with or without ...xygen, to the infant as well as the adult. And, to help ...revent respiratory acidosis during general anesthesia, ...IR-SHIELDS research and engineering has developed ...he JEFFERSON VENTILATOR.

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BUYER'S GUIDE

For further information on any of the products, please check the Buyer's Guide number on the reply card opposite page 128.

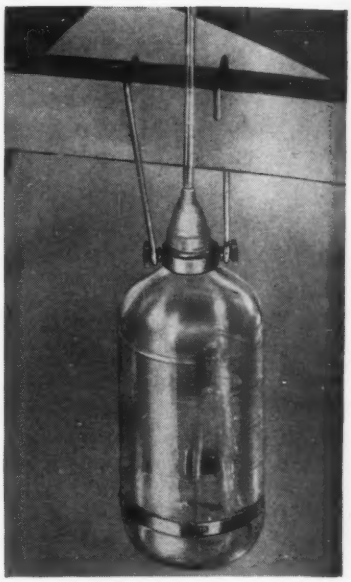
Evelyn Schwanke
Buyer's Guide Editor

700. Sunscreen

KoolShade sun-shading screen has tiny horizontal louvres of bronze wires, .05 in. wide and .005 in. thick. These are permanently set at a 17° angle, spaced approximately 23 to the vertical inch. Miniature Venetian blinds intercept up to 87% of the sun's rays, keeping rooms as much as 13 degrees cooler. Screens allow plenty of filtered light and ample air circulation, yet keep out insects, reduce eye strain. Virtually maintenance free, they are hinged on one side to permit window washing. Reflectal Corp.

701. Centrifuge

Table model centrifuge handles from ½ to 100-ml. tubes with speed selectivity up to 2,250 rpm, and precise speed control. "Universal" model is 22 in. in diameter, 14 in. high. Exterior is resistant to acids, alkalis, lacquer solvents. Ball bearings, hand-balanced motor, snap action switch result in long life, almost vibrationless operation, minimum maintenance. Auto transformer holds speed steady and true anywhere over the range, despite load resistance or normal current fluctuations. Precision Scientific Co.



702. Bottle hanger

Drainage bottle hanger assembly makes it possible to utilize old narrow-neck solution bottles. Assembly consists of a brass bottle top ring and two 5" hanger wires that fit any bed rail. The Pharmaseal plastic urinary drainage tube completes the assembly. American Hospital Supply Corp.

703. Water station

Stainless steel water station solves problem of filling glass with one hand while holding meal tray with the other. Ambulatory patient or hospital employee takes paper cup from dispenser and holds it under water spigot. Cup interrupts electric eye beam, automatically starting pouring action. Station has two disposal chutes for used cups, and cabinet space below water dispenser for storing extra cups or other supplies. Paper Cup & Container Institute.

704. Coated sheeting

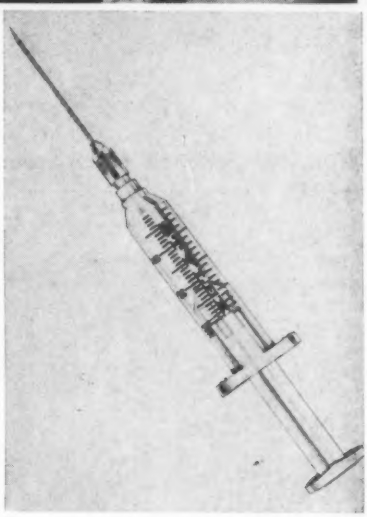
Vinyl-coated print cloth resists bacterial contamination and keeps odors from forming. The Tomac Sterex sheeting can be used for draw sheets, pillow cases, any general waterproof sheeting requirement. Does not bunch up or wrinkle, cuts heat generation. American Hospital Supply Corp.

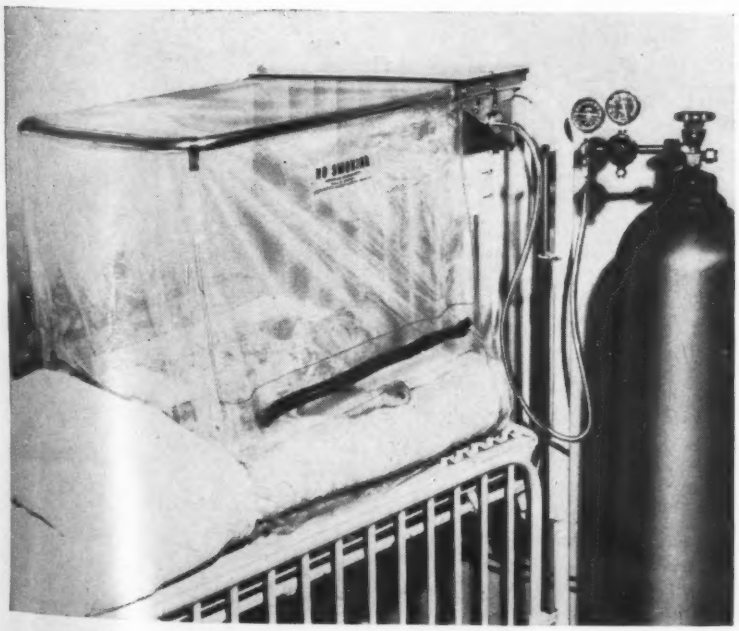
705. Croup tent

High humidity croup tent hangs from top bar of child's crib, allowing bed to be made up or raised without disturbing the unit. Controls are outside tent, for greater availability, and icebox is heavily insulated for ample cooling and minimum servicing. Complete and easy access to patient facilitates nursing care. Hudson Oxygen Therapy Sales Co.

706. Expendable syringe

Stylex expendable hypodermic syringe has legibly calibrated, clear plastic barrel, and plastic plunger and needle protector. Available in 2-cc., 5-cc., and 10-cc. sizes, it is packaged in cellophane-wrapped, dustproof container and Guaranteed sterile and non-pyrogenic, syringe assures safety, eliminates need for cleaning and sterilizing. Dispensing cartons each contain 100 individually packaged syringes. Pharmaseal Laboratories.

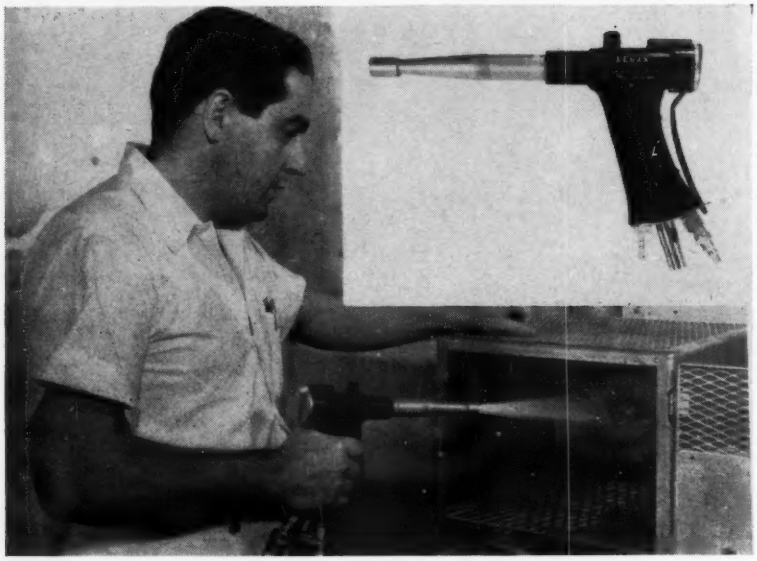




707. Cancer records

Improved system for recording, indexing, filing, and following up cancer cases has been devised. Conforms to specifications in *Manual of Cancer Registries and Cancer Clinical Activities* of the American College of Surgeons. Standardized forms provide Cancer Accession Register, a means of indexing and filing cancer case records, and a follow-up control. Sites and histological types of tumors are classified in accordance with *Standard Nomenclature of Diseases and Operations* to create a cancer index. Maintaining system will demand minimum of time from medical record librarian. Physicians' Record Co.

708. Cleaning gun

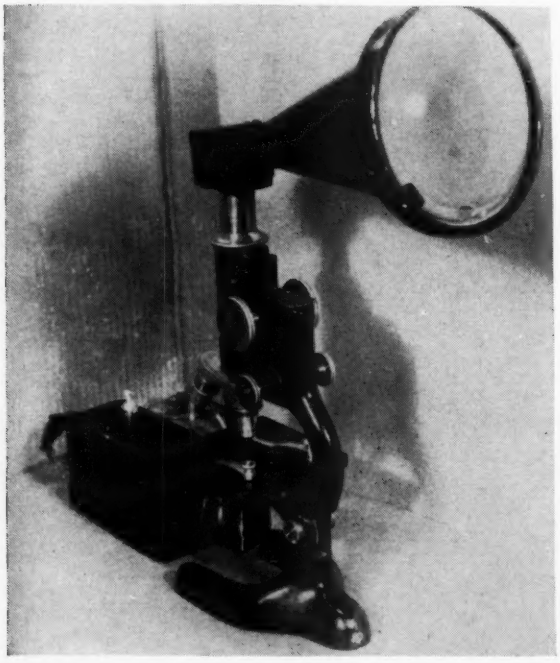


New cleaning device, using compressed air, enables user to switch instantly from a cleaning solution to a clear rinse, or to dry air if desired. Consumption of materials is said to be reduced and up to 80% of labor saved. Gun will clean areas hard to reach, using only compressed air and water. Made of light-weight metals, it is comfortable to hold, easy to manipulate. Kemax Corp.

710. Lead shield

New radiation instrument now available is Model LS-7M lead shield. Incorporates "swing-out" absorber shelf and 3-tray sample turntable which accurately positions samples under the scintillation detector crystal or phosphor. Turntable revolves, so that one sample can be counted while two other samples are being prepared. Technical Associates.

709. Microscope-projector



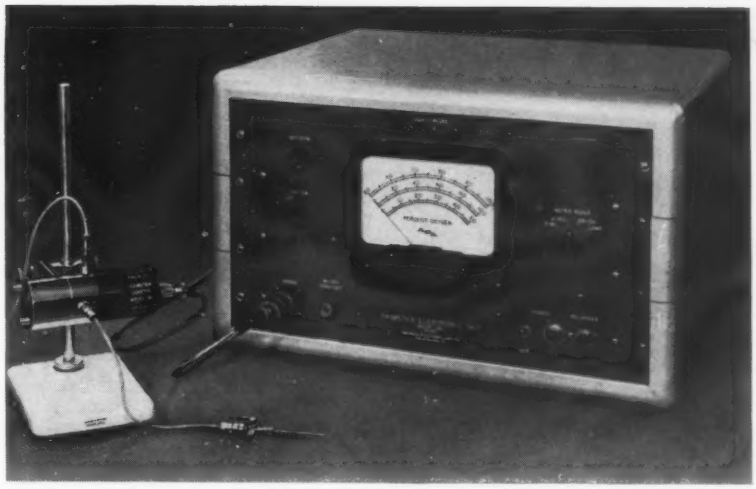
Optical system converts standard microscope into instrument providing unlimited magnification. Microscope so equipped will record picture of specimen without camera or film, furnishing printed records for study or research. Because magnification is by projection, several persons may view specimen at the same time. Image is not distorted. System eliminates need for oil immersion of specimen, and enables a blood count to be made without chamber or dilution. Ellken Business Services.

711. Refrigerated tunnel

New low temperature package-passing door and tunnel has been developed to minimize refrigeration loss when packages are brought into or taken out of refrigerated rooms operating from 15°F. to -30°F. Door and tunnel are designed to provide airlock for packages. Lo-Temp deep tunnel doors feature overlapped strip rubber curtains, vapor-tight metal doors, and Frostop heating unit. Unit is automatic, thermostatically-controlled, heating cable which prevents build up of ice on gasket contact areas of refrigerated door frames, sills. Jamison Cold Storage Door Co.

712. Oximeter

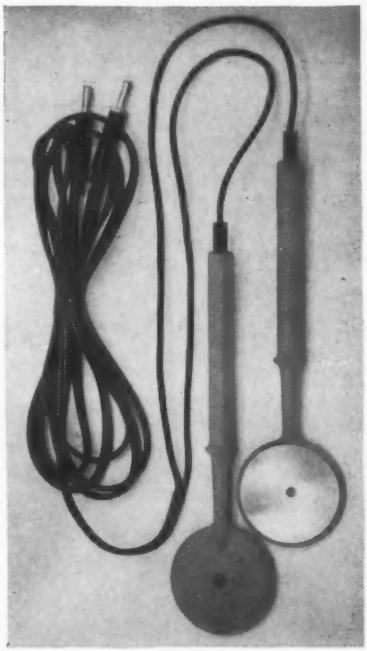
Cuvette Oximeter based on spectrophotometric principles, is now available to measure percent oxygen saturation of either whole or hemolyzed blood. The instrument is supplied calibrated and once standardized in the hospital laboratory will read blood sample saturation percentage immediately. Only 0.85 cc. of sample is required for reading; the instrument is not sensitive to blood flow or hematocrit. Device can be used for single samples or for recirculating blood. Repetitive readings can be made to 1%. Instrument is supplied with large linear panel meter (with expandable scales) for reading, and will drive most ink recorders directly if desired. American Electronic Laboratories, Inc.



For further information on any of the items described on these pages, please circle the appropriate number on the postage-paid card opposite page 140.

713. Defibrillation electrodes

Concave electrodes are designed for use with any make or model electric defibrillator. Made of stainless steel, electrodes are larger in area to provide greater contact and are fully insulated against accidental shock. Cords as well as electrodes are completely autoclavable. Birtcher Corp.



714. Meal cart

Electric Meal cart keeps food cold by means of automatic refrigeration, hot in insulated oven compartment heated by waterproof units. Step-down design provides unobstructed set-up area, just beneath beverage dispenser, at serving counter height, for trays up to 15½" x 20½". Consisting of 3 individually insulated wells, beverage bar dispenses hot and cold liquids simultaneously. Easy to remove or install, beverage bar may be used with meal cart or separately for serving beverages only. Meal cart is available with mechanical or cartridge refrigeration. Shampaine Electric Co.

FILMS, NEW LITERATURE

715. Hazard guards

New 12-page folder illustrates 26 technical enclosures for safe handling of all types of contaminants. Equipment is stainless steel, for easy decontamination and corrosion resistance. Items described include micro-biological safety cabinet, fume hoods, inoculation hoods, all-purpose unitized safety enclosures. S. Blickman, Inc.

716. Medical film

New 16 mm. color motion picture on clinical management of autoimmune hematologic disorders now available for showing to professional groups. Film is scientific presentation photographed unrehearsed in amphitheater of New England Center Hospital, Boston, by William Dameshek, M.D., hematologist-in-chief. Designed as teaching aid for medical and nursing students. Audio Visual Dept., Schering Corp.

717. Steel lockers

Illustrated bulletin shows new line of steel storage lockers which incorporate several improvements. New door handles, tier head construction, door frames, friction catch, and Auto-Lock are featured. Penco Metal Products Div., Alan Wood Steel Co.

718. Electric dumb-waiter

Two-color bulletin contains complete specifications and design information on high speed electric dumb-waiters. Lists, in tabular form, complete sizes, capacities, speeds, and dimensions for units. Energy Elevator Co.

719. Parenteral solutions

New leaflet presents, in chart form, valuable information for use in administering parenteral solutions. Included are normal blood values, milliequivalents per liter, conversion factors, a table of hospital liquid solutions, and fluid requirements in burns. Also listed are company's dextrose and invert sugar solutions by name, bottle size, contents, and approximate caloric values. Amsco Hospital Liquids, Inc.

720. Laboratory news

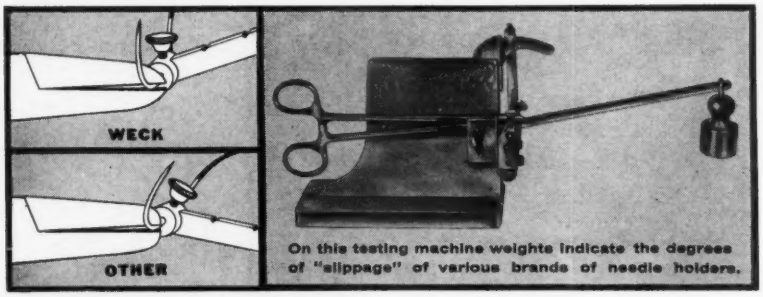
New edition of *The Laboratory* (Vol. 26, No. 3) presents new products, features latest developments in laboratory instrumentation and technic. Available in a regular and a clinical edition. Both carry an article surveying developments in the study of poisons, including the poison control center. Fisher Scientific Co.

721. Acoustical materials

Two noncombustible acoustical materials are illustrated and described in bulletin. Complete characteristics and specifications are given for a mineral wool tile and a perforated metal acoustical system. Acoustical Products Div., Baldwin-Hill Co.

722. Steam sterilizers

Catalog Master Section 2 completely describes the new line of Straight-line steam sterilizers. The new series includes dressing, infant formula, and instrument sterilizers, and laboratory autoclaves. Wilmot Castle Co.



Flash! —WECK "BULLDOG" JAWS
SHOW HIGHEST NON-SLIP RATING!

Above diagrams explain the action of the testing machine at the right. Upper diagram shows how the Weck "Bulldog" jaw holds the needle rigidly, resisting the "pull" of the weight on the bar. Lower diagram shows how the jaws of leading competitive holders permit the needle to slip as indicated by the lowering of the bar.

WECK "BULLDOG" MEANS A ONE PIECE JAW

The serrated areas of Weck Needle Holder "Bulldog" jaws are hardened by a special process of forming complex carbides to provide the exact hardness to resist wear, assure firm grip and yet not injure needles. These serrations are actually part of the jaws — *not an insert* — and are patterned to give the needle a tight fit in the grooves.

The latest in the line of Weck "Bulldog" Jaw Needle Holders is the sensational new "Ryder" (at right) which also boasts these two exclusive features:

1. UNIFORMLY NARROW JAWS — less chance of bending or breaking the needle. Needle may be gripped at any point along the jaw — instead of former practice — at the very tip.
2. SPRING-ACTION HANDLE — The jaws open automatically as a light finger pressure releases the catch — especially efficient for those surgeons using the increasingly popular "palm-roll" technique in suturing.

WECK 68 YEARS OF KNOWING HOW
EDWARD WECK & CO., Inc., 135 Johnson St., Brooklyn 1, N. Y.
Manufacturers of Surgical Instruments • Hospital Supplies • Instrument Repairing

AORN Products Parade

Part II

Here is the second installment of TOPICS' graphic report on the items displayed at the 5th national congress of the Association of Operating Room Nurses, held in Philadelphia recently. For other news of products featured, see pages 66-73 of the March issue. Further information on these items may be obtained by checking the reply card opposite page 140 and mailing it to TOPICS.

1. At the Dennis R. Scanlan, Jr., Inc. display of Swedish stainless steel surgical instruments, Corinne Vanier, O.R.S., Mercy Hospital, Portland, Me., looks at Crafoord aorta clamp. Dennis R. Scanlan, Jr., points out features of quality and design incorporated into clamp, one of new long cardiovascular instruments. C-730.

2. E. O. Pratt, Pratt Hospital Equipment Mfg. Co., demonstrates new recovery room stretcher to Sister Redempta, O.R.S. (center), and Sister Mary Luetpranda, assistant O.R.S., both of Drueding Infirmary, Philadelphia. Stretcher is made of 16-gauge steel tubing, chromium plated, has a hydraulically operated head section, side rails which lock automatically, nylon safety straps and a foam rubber mattress. C-731.

3. Lee Ensign, Richards Mfg. Co., demonstrates new cuff for the company's Campbell-Boyd tourniquet to Agnes C. Tierney, O.R.S., Riverside Hospital, Wilmington, Del. Cuff consists of inside plastic shield which keeps tourniquet from rolling down leg. Tourniquet can be attached with only one buckle. C-732.

4. Felix Bronneck, Lehn & Fink Products Corp., tells June Wanner, head clinical instructor, Cincinnati (O.) General Hospital, of applications of Lehn & Fink disinfectants in the operating room. They are used as a germicidal dip to remove contamination from gloves, are often standard equipment on scrub-up carts, and are applied to instruments before sterilization. C-733.

5. Among the E. R. Squibb & Sons products shown at the convention was Kenacort, a modification of prednisolone, which offers greater effectiveness in corticosteroid therapy. Interested visitors at the booth were Marilyn Larson (l.), O.R.S., Presbyterian Hospital, New York City, and Gilda Mancinelli, a clinical instructor at the same hospital, shown here with Herbert M. Nieman. C-734.

6. Two visitors at the Duke Laboratories, Inc., booth were (l. to r.) Phyllis Richardson, graduate student, University of Pennsylvania Hospital, Philadelphia, and Joan Gowin, O.R.S., Ball Memorial Hospital, Muncie, Ind. William Martin shows them Duke's Elastoplast, plastic adhesive postoperative bandage. C-735.

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7. Dittmar and Penn Corp. displayed its line of stainless steel retractors, designed for functional effectiveness in all operating procedures. Ted Sifo, Dittmar-Penn, is shown with Marion Burch, O.R.S., Beekman-Downtown Hospital, New York City. C-736.

8. Wes Clark, A.S.R. Products Corp., points out features of SteriSharps, stainless steel surgical blades which are individually sealed in foil and can be re-autoclaved. M. Curtis Lewis, O.R.S., Williamsburg General Hospital, Brooklyn, N.Y., looks on. C-737.

9. Margaret Miller, Franklin C. Hollister Co., rivets an Ident-A-Band on the wrist of Mrs. D. Esther Murphy, O.R.S., Eagleville (Pa.) Sanatorium. Identification bracelet is made of smooth, soft plastic, with large space for writing name of patient. Data is sealed in, unalterable, remains legible through weeks of wear. C-738.

10

10. Louis Matteo, owner, General Hospital Industries, demonstrates leakproof guide seal, improved feature of new Foley bag catheter, to Anne Foran, director of nursing, French Hospital, New York City. Reusable seal guides needle directly to center of plug, preventing punctures of catheter sidewall. Booth also displayed sterile packaging of Foley catheter. C-739.

11. Tom Tierney, manager of hospital sales, Bauer & Black, demonstrates application of Kerlix dressings to Thelma Swartley, O.R. nurse, Grandview Hospital, Sellersville, Pa. Bauer & Black also exhibited sutures on new dispensing reels, prepack surgical dressings, radiopaque sponges, Telfa and Sorbant dressings, and Gypsona and Ostic plaster bandages. C-740.

11

12. Inform control, infant formula sterilization control featured by Smith & Underwood at meeting, attracts attention of Joan T. McGill, clinical instructor, St. Joseph's Hospital, Philadelphia. Bill Deyonker and George Underwood (r.), both of Smith & Underwood, explain that control consists of pellet suspended in glass tube. Designed for use in terminal heating of formulas, pellet in Inform control will melt only when autoclave temperature remains at 230° F. for 10 minutes. C-741.

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13. The Deknatel "K" needle is being shown by William J. Collins, Deknatel, to Rachel Blastic (l.), O.R.S., Akron (O.) General Hospital, Mary Bortz, O.R.S., medical center, University of Kansas, Kansas City, and Helen Staats, head nurse, Methodist Episcopal Hospital, Philadelphia. New point of needle gives greater control and stability in handling, and reduces tearing or unnecessary cutting out of tissue. C-742.

14

14. Vivian Hamberger (l.), O.R.S., Lutheran Hospital of Maryland, Baltimore, and Lillian Long, O.R.S., Grace Hospital, Richmond, Va., inspect the O.R. nurses' safety conductive shoe being shown by Russell Price, president of O.R. Products Co. C-743.

15

15. The sterile-packaged Bardex Foley catheter claims the attention of Muncy Hopkins (center) and Wanda Booker, both O.R. nurses, VA Hospital, Dearborn, Mich. Hamilton Disston, C. R. Bard, Inc., points out that catheter is ready for instant use without processing or autoclaving. C-744.

16

16. Featured at the Edward Weck & Co. booth was the new-shaped Ryder jaw needle holder being shown by Leon Charbonneau to Carmelita Kiltoile, O.R.S., Samaritan Hospital, Troy, N.Y. In addition to manufacturing a complete line of surgical instruments and hospital supplies, Weck maintains an instrument repair service. C-745.

17. The Foster reversible orthopedic bed was on display at the Gilbert Hyde Chick booth, manned here by Carl Thompson. Capt. Ruth C. Terry, O.R.S., U.S. Air Force Hospital, Bolling Air Force Base, Washington, D.C., inspects the bed, designed for use when frequent turning of patient is necessary. A simple adjustment makes the bed suitable for surgery. C-746.

18. Joel Pencer, Snowden-Pencer Corp., demonstrates to Lt. Frances Jacobson, O.R.S., U.S. Naval Hospital, Portsmouth, Va., the use of the new surgical Instrument Milk, non-oily, non-sticky, rust-prohibiting lubricant for surgical instruments. Snowden-Pencer also displayed Ochsner Diamond-Jaw needle holders and Diamond-Edge scissors. C-747.

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19. J. K. Landis, DePuy Mfg. Co., shows the company's new screwdriver to Henrietta Corr (l.), O.R.S., and Marjorie Tierney, O.R. staff, Community Hospital, Glen Cove, N.Y. DePuy also exhibited the Fenton tibia belt, a new compact hand surgery table, the Universal intertrochanteric bone plate, and other new orthopedic items. C-748.

20. Sarah L. Pattillo, O.R. nurse, VA Hospital, and Mabel Regester (r.), O.R.S., Church Home and Hospital, both of Baltimore, listen attentively as H. F. Baird, S. E. Massengill Co., explains use of Adrenosem salicylate, systemic hemostat. In new syrup form, it is used pre-operatively for pediatric patients. C-749.

21. Temptube indicators, for sterilization control, occupy the attention of Ealeon Lawhorne (center), O.R.S., and Sarah Gowen, assistant O.R.S., Lynchburg (Va.) General Hospital, as Al Numan, assistant sales manager, Propper Mfg. Co., holds sample for their examination. Tubes were part of full line of autoclave instruments exhibited at Propper booth, which also featured Sera-Sharp, sterile disposable blood lancet. C-750.

22. Margaret McCready, O.R.S., Children's Hospital of Michigan, Detroit, relaxes at the Vestal, Inc., booth as she talks to T. J. Leverte, Vestal, about company's new dispenser for Septisol antiseptic soap. Available in wall and portable models (double portable type is shown), dispenser features completely pneumatic design, patented control valve to regulate soap flow. New foot pump is low enough to use without lifting foot from floor. C-751.

23. Carl Johnson, Shampaine Co., demonstrates convenience of side-loading position of cassette tunnel in Shampaine operating table to Lucy Jo Atkinson (r.), O.R.S., Children's Hospital of Pittsburgh, and Nancy Ann Zinns, head nurse, operating room, University Hospital, Cleveland. Cassette may be moved and positioned along entire length of table, does not require movement of anesthetic equipment for loading or unloading. C-752.

24. Prepacked, pretested, sterile Vaseline petrolatum gauze, in various sizes, was exhibited by Chesebrough-Pond's, Inc. Stan Kalish, Chesebrough, explains the efficiency and economy of the gauze to Julia A. Boyle (l.), O.R. nurse, Misericordia Hospital, Philadelphia, and Rose Breese, O.R.S., Germantown Hospital, Philadelphia. C-753.

25

25. Doho Chemical Corp. products displayed at the convention included Dermoplast, aerosol freon propellent spray analgesic for pain, itching, and burns. John Shaw, Doho, describes its use to Sister M. Clemens, who takes notes, and to Sister M. Lucian, both of Nazareth Hospital, Philadelphia. Rectalgan, liquid topical anesthesia for pre- and postoperative use, was also featured by Doho. C-754.

26

26. Betty Gray, O.R.S., Meyersdale (Pa.) Community Hospital, admires the Anchor Products display of stainless steel surgical needles. L. R. Schroeder, president of Anchor, explains features of other items shown, including needle cabinets and stainless steel sterilizing boxes and holders. C-755.

27

27. Sophia Tressler (l.), Philadelphia, was hostess at the booth exhibiting books of medical publishing companies. Participating in the display were: the Blakiston Division, McGraw-Hill Book Co.; G. P. Putnam's Sons; the W. B. Saunders Co.; and the Williams & Wilkins Co. Florence A. Canada, O.R.S., U. S. PHS Hospital, Lexington, Ky., has a question about one of the books. C-756.

28. Theresa Davey, O.R.S., Osteopathic Hospital, Philadelphia, stopped at the Rudolph Beaver booth to examine the replaceable blade knife shown by John Beaver, sales manager. Blades are made in 28 shapes and are designed for general surgery use as well as for specialized technics. The Beaver blade file and tray pack blades were also displayed. C-757.

28

29. Three O.R. supervisors listen to Don Edwards' presentation of Pioneer Rubber Co.'s Rollpruf white surgeons' gloves. Made of sheer, soft-textured neoprene, gloves are non-allergenic. Nurses are (l. to r.) Alma Johnson, Union Hospital, Fall River, Mass.; Evelyn Buckley, Lutheran Deaconess Hospital, Chicago; and Jeanette Morrell, Fort Pierce (Fla.) Memorial Hospital. C-758.

30. Mrs. Helen Botdorf, Meinecke & Co., Inc., operates Haemo-Sol brush dispenser for benefit of Dorothea Ballas (center), O.R. staff, Nanticoke Memorial Hospital, Seaford, Del., and Doris Taylor, O.R.S., Peninsula General Hospital, Salisbury, Md. Exhibit displayed varied uses of Haemo-Sol for cleaning apparatus and instruments, and of Sterilwraps for wrapping sterile packs. C-759.

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31. Samuel Gilbert, Air-Shields, Inc., points out NonReBreathing head, new volume indicator which will fit any model of Jefferson ventilator, to Mary Brick Klaus, O.R.S., Edward J. Meyer Memorial Hospital, Buffalo, N. Y. Head provides positive and negative pressure during nonrebreathing anesthesia or during use of ventilator as a respirator. New model Jefferson ventilator with built-in volume indicator was also displayed. C-760.

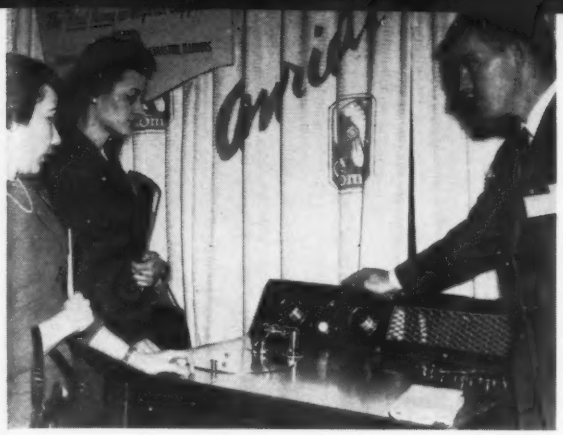
32. Operation of the Doss automatic percolator is explained to Sister Isabel (l.), O.R.S., Hospital of the Holy Family, Brooklyn, N. Y., and Sister Imelda, O.R.S., Maryview Hospital, Portsmouth, Va., by George A. LaBarre, American Cystoscope Makers, Inc. Pyrex bottle is housed in steel cabinet, mounted on roller-bearing casters for easy transportation. Bottle, rubber cap, and clamp may be sterilized in large autoclave. C-761.

33. Beverly Welch, staff nurse, St. Vincent's Hospital, Indianapolis, examines new Alumafoam leg splint at Conco Surgical Products, Inc., booth. Henry Young, Conco, points out that splints may be molded to fit individual patient's physical structure. C-762.

34. Stainless steel surgeons' needles, with special waterproof packaging, are displayed to Ruby Herzah (center), O.R.S., and Helen Wolbert, assistant O.R.S., both of Weiss Memorial Hospital, Chicago, by Robert Clarke, general manager, Torrington Co. Eye-type surgeons' needles in wide variety of styles and sizes, scientifically treated to produce uniform temper, were featured at Torrington booth. C-763.

35. Sitting down to examine new conductive Stick-on at Conductive Shoe Co. booth is Marie B. Ellison (r.), O.R.S., St. Luke's-Texas Children's Hospital, Houston. Mrs. Gordon Hines shows her how doubled thickness of shoe pad is designed to prevent metallic ribbon from coloring wearer's stockings. C-764.

36. Mildred Nelson, Lin Co., demonstrates explosion-proof sterile solution warmer, for operating rooms and wards, to Dorothy Little (center) and Evelyn Tutunjian, O.R. nurses, Madison Park Hospital of Adelphi College, Brooklyn, N.Y. Adjustable thermostat control keeps solution at fixed temperature indefinitely. C-765.



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37. Linda Lafferty (l.) O.R. nurse, Massachusetts General Hospital, Boston, and Elizabeth McCabe, O.R.S., Victoria Hospital, London, Ont., Canada, stop to get information on the American Hospital Supply Corp. Tomac Model B ultrasonic cleaner. John Sloan explains that principle on which cleaner operates utilizes high frequency sound waves which activate millions of tiny, power-packed cleaning forces. C-766.

38. Bessie L. Bowen, O.R.S., Veterans Center, Jackson, Miss., looks over Max A. Wocher & Son Co. display of surgical instruments. Both imported and domestic items were shown by Clayton Randall, Wocher representative, including Haufrecht episiotomy scissors, Gelpi perineal retractor, Sims and Metzenbaum uterine scissors, and Lister bandage scissors. C-767.

39

39. Daniel Cronin, Jr., sales manager, and William Ketterer, both of MacBick Co., answer questions asked by Eleanor Crawford, O.R.S., Saratoga Hospital, Saratoga Springs, N.Y., regarding Pour-O-Vac flask washer and rinser. Portable washer utilizes "Spin-Jet" principle for thorough cleansing of soiled flasks. Installation requires only availability of hot tap water source. C-768.

40. Pausing to look at control syringe at Eisele & Co. booth is Maj. Sophia Cathryn Skiba, O.R.S.-Central Materiel Supervisor, U. S. Army Hospital, Aberdeen Proving Ground, Md. John E. Moore, Eisele, tells her about new patented design of syringe which enables parts to be easily assembled and separated, making unit practical, simple to clean and sterilize. C-769.

40

41. Cliff Miller, Huntington Laboratories, points out versatility of Spal, concentrate detergent, which may be used to clean hospital instruments, conductive floors, area surrounding nursing stations, and metal or wood cabinets. Listening are (l. to r.) J. Irene Smithson, surgical supervisor, Centinela Valley Community Hospital, Inglewood, Calif.; Ethel West, O.R.S., Methodist Hospital of Southern California, Arcadia; and Viola Roddewig, O.R.S., Beverly Community Hospital, Montebello, Calif. C-770.

42. At the booth of Surgical Products Division, American Cyanamid Co., H. M. Robertson explains use of the Carver Ring Dispenser, designed for D & G spiral wound sutures. Visitors at the booth are (l. to r.) Lillian Begley, clinical instructor, Greenville (S. C.) General Hospital; Martha McFadden, O.R.S., De Witt Army Hospital, Fort Belvoir, Va.; and Margaret C. Thomas, O.R.S., Woman's Hospital, Cleveland. C-771.

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43. Herbert Adler, Randall Faichney Corp., described new stainless steel sterilizing case for lumbar puncture needles to Georgette C. Jewett, O.R.S., Lakeland Hospital, Elkhorn, Wis., when she visited the Faichney booth. Also on display were heart catheterization needles, polyvinyl tubing with thin-wall needles, and a line of precision Ranfac hypodermic needles and syringes. C-772.

44. Tashan hand cream samples intrigue Tanya Pilecki (l.), and Sally Finderson, both O.R. nurses, Hahnemann Medical College and Hospital, Philadelphia, at Roche Laboratories booth. F. E. Wilson, Roche, tells them special applications of cream and calls their attention to other featured Roche items, Levo-Dromoran, synthetic narcotic; Nisentil, rapid-acting narcotic analgesic; and Arfonad, rapid, short-acting vasodepressor. C-773.

45. Marie Gormley (r.), O.R.S., Pontiac (Mich.) State Hospital, had a question for John F. Steiger, Harold Supply Corp., concerning the Steriphane system for processing, sterilizing, and packaging needles, syringes, and catheters. Sterilwraps and related central supply and operating room items were also on display. C-774.

46

46. At Zimmer Mfg. Co. booth, Harley Baxter explains operation of explosion-proof model of Luck bone saw to Virginia Ruth Allen (center), O.R.S., Tucson (Ariz.) Medical Center, as Adeline Britz, O.R.S., Tucson General Hospital, looks on. Both nurses hold copies of special booklet given out by Zimmer at meeting, containing information on latest technics for treatment of fractures. C-775.

47. Emil Cochlin (l.), O.R. clinical instructor, and Coralee, Mason, O.R.S., both of Columbia Hospital, Pittsburgh, show interest in Joseph Lampe's description of orthopedic pin cutter, among items featured at Charles A. Schmidt Instrument Co. booth. Also displayed were cystoscopic instruments and the Hohm neurosurgical instrument table. C-776.

48. Arden Ray, R.N., Scholl Mfg. Co., demonstrates method of applying Tubegauz, seamless tubular gauze dressing, as Robert Hertzendorf, O.R.S., Jewish Chronic Disease Hospital, Brooklyn, N.Y., serves as a model. Scholl displayed its complete Double Seal line of surgical adhesives and dressings. C-777.

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49. Demonstrating Dennison Sterilwrap for gloves, Homer Higgs, owner, Homer Higgs Associates, Inc., shows Ann Reeder, O.R.S., New York State Rehabilitation Hospital, West Haverstraw, special two-way stretch feature of paper autoclave wrapping. C-778.

50. At Hausted Mfg. Co. booth, Mary C. McCormack, supervisor, recovery room, Phelps Memorial Hospital, Tarrytown, N. Y., finds out first-hand how two-way slide and tilt feature operates in Hausted "Easy Lift" recovery room stretcher. Paul Jones, Hausted, demonstrates. C-779.

51. Ogeretta L. Green (l.), assistant superintendent, St. Mary's Hospital, St. Louis, and Marilyn Rubin, O.R.S., Lutheran Hospital, St. Louis, discuss with George W. Muller the operating room equipment featured by Ritter Co., Inc. Among the items are tables for genitourinary and proctologic procedures, and a chair-table designed for ophthamology, ENT, and plastic surgery uses. C-780.

52. Champion non-absorbable Dri-Pak sutures, in sterile envelopes, were displayed by Gudebrod Bros. Silk Co., Inc. B. J. Green, Gudebrod, shows sutures to Lt. Bernadette McKay (center), O.R. nurse, U. S. Naval Hospital, St. Albans, Long Island, N.Y., and Lt. Evelyn Hegarty, O.R.S., U. S. Naval Hospital, Newport, R.I. C-781.

53. William Hill, Jr., Marsales, and Eileen M. Conway (center), and Bette Richards, both O.R. nurses at Crozer Hospital, Chester, Pa., discuss the round top surgeons' caps exhibited by Marsales Co., Inc. Also featured were the highly absorbent surgical dressings, new O.R. dressings, and latest developments in prepackaging for central supply. C-782.

54. James Tracey, Mead Johnson & Co., points out features of Y-type blood administration set to Mrs. Joyce Dimmick, associate director of nursing service, Hahnemann Medical College and Hospital, Philadelphia. The set, designed for simultaneous or alternate infusion of blood or plasma, with other parenteral solutions, is available with or without needles or pressure units. C-783.

55. The Fengel Corporation displayed a full line of surgical and laboratory supplies, including rubber goods, glassware, surgical instruments, hypodermic needles, and syringes. Featured also were Swedish stainless steel instruments and English noncorrosive surgical needles. C-784.

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56. Albert Arvidson, The Lawton Co., explains fine-tooth grasp principle embodied in Allis tissue forceps to Vera Connelly (l.), O.R.S., Lincoln Hospital, Los Angeles, and Lillian Belanger, O.R.S., Huntington (N. Y.) Hospital. Teeth give positive grasp without damaging tissue. C-785.

57. Complete line of expendable, high-quality plastic intubation equipment was featured at Pharmaseal Laboratories exhibit as well as the Pharmaseal, Sigmol, oil retention, and dry-mix enemas. C-786.

58. Tillie Paskewich (center), assistant O.R.S., Doctor's Hospital, New York City, questions Robert Glennan, Clay-Adams, Inc., about electron sterilization of Intramedic polyethylene tubing, which she holds wound on dispensing reel. Lois Rea, O.R. staff nurse at the same hospital, looks at sterile envelope packaging of tubing, displayed on board in background. C-787.

59. The new Flex-Master rubber elastic bandage attracted attention at the Medical Fabrics Co. booth. Also displayed were other items in company's complete line of cotton and rubber elastic bandages, elastic adhesive dressings, and plaster of Paris bandages and splints. C-788.

60. Copper handles identify tungsten-carbide jaws, distinctive feature of J. Sklar Mfg. Co. surgical instruments, Henry Flannagan, Jr., Sklar, tells Margaret Perdue, O.R.S., Jackson Memorial Hospital, Miami, Fla. Demonstrating with needle holder, he points out welded insert which eliminates breakage from heating. C-789.

61. Evelyn Schneider, O.R.S., Mt. Sinai Hospital, Miami Beach, Fla., considers the use of Oxycel, absorbable, hemostatic surgical dressing, in the operating room. It was shown by M. I. Teza at the Parke, Davis & Co. booth. Dressing can be used on skin and for packing cavities in body. C-790.

62. Over 500 supply labels for central supply, O.R., solution room, pharmacy, and other departments, were shown by the Professional Tape Co. Labels, polyvinyl-coated for durability, are designed to eliminate danger of self-inoculation and prevent confusion, as well as satisfy time conditions for sterilizing and other hospital procedures. C-791.

63. Stanvelopes, the new procedure for CSR sundry item sterilization, and needle and syringe protectors for use with Stanvelopes, were shown by the Stanley Supply Co. Stanley Royal surgeons' needles were also exhibited. C-792.

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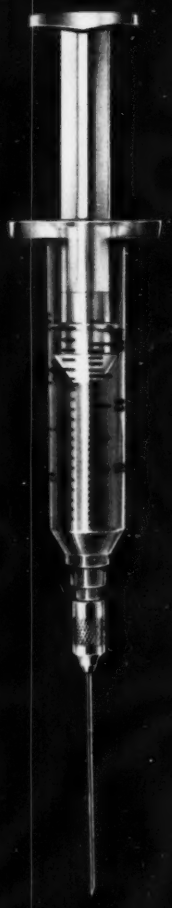

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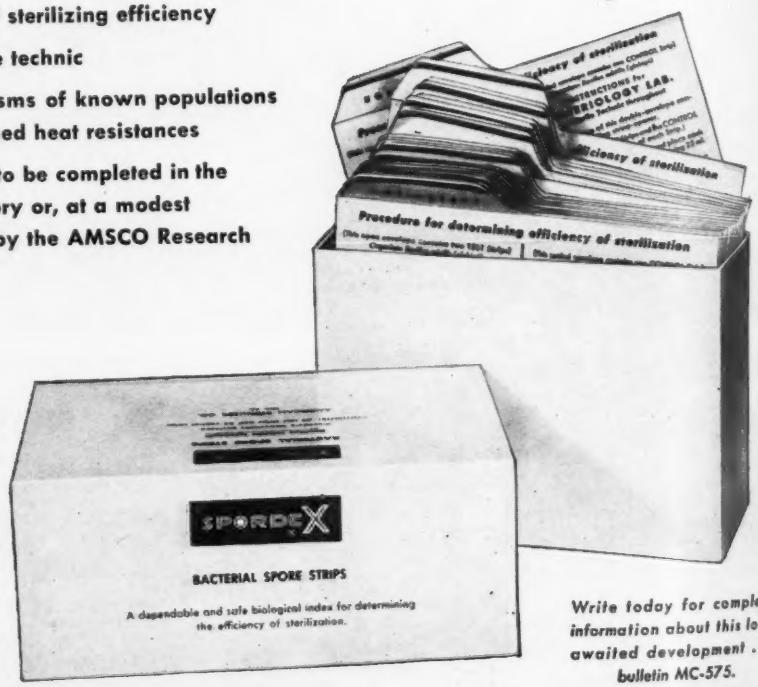
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Now everybody's talking...

about... *closer control of cross infection in every part of the hospital*

Wider recognition of the current problem of hospital-acquired infections is focusing new attention on ways and means of reducing this hazard to good patient care. Hospital and medical society meetings—and hospital, medical and surgical journals—are daily shedding new light on the varied aspects of the overall problem.

In many hospitals, a special "committee on cross infection" has been appointed to review practices and procedures. In others, each department head is studying closely his or her own methods of operation. Few hospitals exist which are not giving some special thought to this highly current problem.

Out of this critical evaluation has grown an awareness that environmental asepsis is a major weapon for cutting cross infection to a minimum. Application of continuous disinfection procedures from operating rooms through food service and laundry areas can be the means to changing the hospital's entire experience with hospital-acquired respiratory, intestinal, urinary or post-operative wound infections.

Take floors, for instance

Floors offer a great opportunity for furthering the spread of infection. Microorganisms settling to the floor are redispersed on dust particles or tracked through the hospital on shoes. Walls and ceilings as well can be reservoirs of potential infection. Lehn & Fink disinfectants not only kill all the most common pathogens on contact but are continuously active against new contaminants touching the disinfected surface for as long as a week later.

While the patient is there

Concurrent disinfection is practical whether or not the patient is "isolated." Wiping of furniture and fixtures and damp mopping of floor, with a disinfectant, stop air- and floor-borne microbes at the source.

In the operating room

Lehn & Fink disinfectants have many applications here. Among them: mopping floors; cleaning grills, ducts, and coils of air conditioners; as standard equipment on the scrub-up cart; as a germicidal dip to remove gross contamination from gloves before their removal; to gather instruments into enroute to sterilizer.

Other L & F disinfectant applications are many: for disinfection of instruments with lens systems, to wipe and store thermometers, to sanitize utensils, etc. In all instances, action is bactericidal, fungicidal and tuberculocidal.

Which L & F disinfectant?

Lysol®, O-syl® and Amphyl® do the same disinfecting job. Any one of them kills bacteria, fungi, and TB bacilli efficiently, but each has individual characteristics.

Lysol was far ahead of its time when introduced over sixty years ago. Recently the formula was improved; the odor was lightened and toxicity was reduced so that the "poison" label is no longer needed. Many hospitals prefer Lysol because of its long reputation for dependability. The characteristic odor is preferred by many for psychological reasons or as an indication that disinfection with Lysol has just been done.

O-syl is preferred by hospitals wanting all the germicidal efficiency of Lysol but without the odor. It is practically odorless when diluted for use. Like Lysol, O-syl is highly concentrated. Only a 1% solution of either (1 part to 100 of water) is needed for most applications.

Amphyl is also odorless when diluted for use. Convenience and low cost due to its high concentration often make Amphyl the disinfectant of choice. Amphyl is twice as powerful as Lysol or O-syl but does not cost twice as much. A ½% solution (1 part in 200 of water) is sufficient for general disinfection so that the cost per gallon of "use dilution" is less than with Lysol or O-syl. When expected contamination is great, as in TB or isolation wards, Amphyl is often preferred.

Let's talk about it

Solving the problem of environmental infection has been the business of Lehn & Fink since 1874. Solving such problems arising in your own hospital usually takes more than talk—but perhaps you would like to discuss them with our technical specialists. We can function as a part of your "committee on control of cross infection," perhaps suggest procedures, and supply informational material for teaching purposes. At any rate, please ask us. Specially trained field service representatives as well as the technical staffs in our New York office and in our laboratories at Bloomfield, New Jersey, are available for consultation.

• • •

Lehn & Fink disinfectants are available through your surgical supply dealer.

If you want literature, samples, or assistance in setting up procedures, please write:

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Personally Speaking

Justin H. Adler, M.D.—has been named chief of staff, Wallace Hospital, Memphis, Tenn., succeeding **Frank Latham, M.D.**

Dr. Adler also owns and operates the Adler Nursing Home in Memphis.

Mrs. Rita Kriston Angel, R.N.—has been appointed head nurse, operating room, Western Pennsylvania Hospital, Pittsburgh.

At the same hospital, **Mrs. Carole Parrish, R.N.**, has become instructor in nursing arts, succeeding **Mrs. Laureame Lucci.** Mrs. Parrish was formerly on the staff of Shadyside Hospital, Pittsburgh.

William Bennett — has become credit manager, Providence Hospital, Portland, Ore.

Grace S. Berman — has been appointed public relations director, Washington (D. C.) Hospital Center.

Kenneth E. Brooks — has become associate director, St. Anthony's Hospital, Rock Island, Ill. He had been administrator, Schoolcraft Memorial Hospital, Manistique, Mich.

Wendell H. Carlson—has become administrator of West Suburban Hospital, Oak Park, Ill., succeeding **L. C. Vonder Heidt,** who resigned after 32 years' service. Mr. Vonder Heidt will continue as a life member of the hospital's board.

Mr. Carlson had been executive director of the Chicago Hospital Council and prior to that, was administrator of Englewood Hospital, Chicago.

Howard F. Cook has been appointed to succeed Mr. Carlson as executive director of the Chicago Hospital Council, which represents 66 hospitals serving the city's metropolitan area. Mr. Cook was previously administrator, Community Hospital, Evanston, Ill.

Charlotte C. Dowler—has become administrator of the newly-completed Burien (Wash.) General Hospital. She was formerly administrator, Shelton (Wash.) General Hospital.

Donald Dunn—has resigned as administrator, Memorial Hospital, Mount Pleasant, Iowa, in order to enroll in a theological school.

Mrs. Myla A. Fidler, R.N.—formerly associate director, nursing services, St. Luke's Hospital, Kansas City, Mo., has become director of nursing at the new North Kansas City (Mo.) Memorial Hospital.

Marian C. Field, R.N. — has become director of nursing, Sherman Hospital, Elgin, Ill., succeeding **Mrs. Ethel Davies.** Miss Field had been associate director since 1954. Succeeding her as associate director of nursing at the hospital is **Mrs. Jeanne L. Cotton, R.N. Mrs. Barbara Bradbury, R.N.** succeeds Mrs. Cotton as assistant director.

Arden E. Hardgrove — retired March 16 as administrator, Norton Memorial Infirmary, Louisville, Ky. He will be succeeded by **Wade Mountz,** assistant administrator since 1951.

Norman D. Harding — has become administrator, Marion (Ill.) Memorial Hospital, succeeding **Mrs. Shirley Lindberg** who resigned to become co-ordinator of the education program of the Illinois Hospital Association.

Mrs. Donald J. Hazelett—has been named office manager, Mary Bridge Children's Hospital, Tacoma, Wash., succeeding **Bernard Schwalen,** who resigned.

Henry X. Jackson — has been named administrator, Valley Presbyterian Hospital, Los Angeles. He had been administrator, Knox County General Hospital, Rockland, Me., since 1952, and served, concurrently, as director of the Roundtable Research Foundation.

Joseph J. Leydon—has succeeded **George Plascowitz** as purchasing agent, Stamford (Conn.) Hospital.

Charles E. Mattix—has been appointed administrator, Ryburn Memorial Hospital, Ottawa, Ill., succeeding **William B. Robinson,** who is now living in California. Mr. Mattix was previously administrator, Lancaster-Fairfield Hospital, Lancaster, O.

Janice McDowell, R.N.—has been appointed operating room supervisor, Utah Valley Hospital, Provo, Utah, succeeding **Betty Jones, R.N.,** who has resigned to accept a teaching position at Dr. W. H. Groves Latter-Day Saints Hospital, Salt Lake City, Utah.

Elizabeth R. Medzius—has been appointed records librarian, Iowa Methodist Hospital, Des Moines, Iowa, succeeding **Charles Arends,** administrative assistant, who had served as records librarian since the resignation of **Lolita Mitchell** last May.

Ben R. Naab—has become administrator, Coeur d'Alene (Idaho) General Hospital. He was previously administrator, Adams County Memorial Hospital, Ritzville, Wash.

Robert Paulsen—has become administrator, Pioneer Memorial Hospital, Prineville, Ore., succeeding **Mrs. Ethel Elliott** who resigned. Mr. Paulsen was formerly business manager, St. Elizabeth Hospital, Baker, Ore.

G. William Peffers — has been appointed director, dietary department, Michael Reese Hospital Medical Center, Chicago, succeeding **Louise Wilkonson,** who resigned.

He was formerly a supervisor with Harris, Kerr, Forster & Co., national hotel and institutional accounting and consulting firm.

Joseph P. Peters—previously administrator, Beekman-Downtown Hospital, New York City, has been named staff consultant, The Hospital Council of Greater New York. Mr. Peters is a former hospital consultant, division of medical and hospital resources, U. S. Public Health Service.

Muriel A. Poulin, R.N. and **Leonard J. Zimet**—have joined the San Jose, Costa Rica, office of Gordon A. Friesen Associates, Inc., hospital consultant firm.

Mr. Zimet, appointed as a consultant in hospital administration, has been assigned to a demonstration project as administrator of the San Juan de Dios Hospital, San Jose. He was formerly secretary of the Philadelphia Board of Health.

Miss Poulin, a nursing consultant in the firm, has been assigned to the same hospital as associate administrator in nursing. Previously she was coordinator of staff education, Massachusetts General Hospital, Boston.

J.C.P. Rhee—has become administrator of the recently opened Sher-Wood Hospital, Van Nuys, Calif. He formerly was administrator of the Valley Hospital in Van Nuys.

E. D. Rosenfeld, M.D., resigned as executive director of the hospital to become consultant for the Haddassah-Hebrew University Medical Center, now under construction in Israel. Dr. Rosenfeld's office will be in New York City.

In another staff change at the hospital, **Raymond DeTroyer** was appointed administrative assistant in charge of communications, purchasing, and transportation. He was formerly purchasing director, Lennox Hill Hospital, New York City.

Kenneth Sanders — has been named superintendent, Meade (Kans.) District Hospital.

Martin Saren—has been named administrator, Long Island Jewish Hospital, New Hyde Park, N. Y. He had been assistant director since 1953, and prior to that was assistant director, Grasslands Hospital, Valhalla, N. Y.

Marjorie Scanlon, R.N.—has been named director of nursing, Skagit Valley Hospital, Mount Vernon, Wash. The hospital is scheduled for completion in April.

Clara D. Schafer, R.N.—has resigned as administrator of South Chicago Community Hospital, Chicago, after serving 37 years. She will continue to serve the hospital as administrator emeritus.

Ernest T. Sheen—assumed administrative duties at Pomona Valley Community Hospital, Pomona, Calif., in February, succeeding **B. J. Caldwell,** now at Memorial Hospital of Glendale, Calif. Mr. Sheen was formerly administrator, Rolling Hill Hospital, Elkins Park, Pa.

Sister Gertrude of Providence—has become assistant administrator, St. Vincent's Hospital, Portland, Ore., replacing **Sister Agnes de Boehme,** who is now at Providence Hospital, Oakland, Calif.

Sister Maria of Assisi—has completed her term as administrator, St. Joseph Hospital, Vancouver, Wash. She has been succeeded by **Sister Francis Ignatius,** previously business office manager, St. Vincent's Hospital, Portland, Ore.

Sister Mary Amelia—has become administrator and superior, St. Anthony Hospital, Terre Haute, Ind. She was formerly administrator, St. Elizabeth Hospital, Lafayette, Ind. Her successor as administrator of St. Elizabeth's is **Sister Mary Mirella,** previously surgical supervisor there.

Sister Mary Damien, formerly at St. Anthony Hospital, Louisville, Ky., succeeds Sister Mirella as surgical supervisor.

Sister Mary Beatrice — has been appointed administrator, St. Joseph's Hospital, Stamford, Conn., succeeding **Mother M. Sacred Heart.**

Sister Mary Celestine—is the new administrator of St. Francis Hospital, Kewanee, Ill.

Mrs. Mary D. Small—has been appointed executive housekeeper, St. Francis Hospital, Hartford, Conn.

Msgr. John C. Staunton—has been appointed director of Catholic hospitals in the Cincinnati archdiocese, succeeding **Msgr. R. Marcellus Wagner,** who held the post 25 years.

(Continued on page 134)

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MEDICAL RECORD LIBRARIANS: (a) Chief. South. University medical center. 600-bed hospital. $6,600. (b) Chief. 200-bed hospital near Chicago. $5,400. (c) Chief. Middle West. 350-bed hospital; 14 in record room. $6,000. (d) East. Chief. 250-bed teaching hospital, affiliated with medical school. $6,000.

DIETITIANS: (a) Chief. East. 175-bed hospital; 2 well qualified assistants. $6,000. (b) Chief. Middle West. 200-bed hospital. City of 30,000. To $7,500. (c) Chief. Southwest. 150-bed hospital. City of 60,000. $6,000. (d) Chief. Pacific Northwest. 75-bed hospital; new dietary dept. $5,000.

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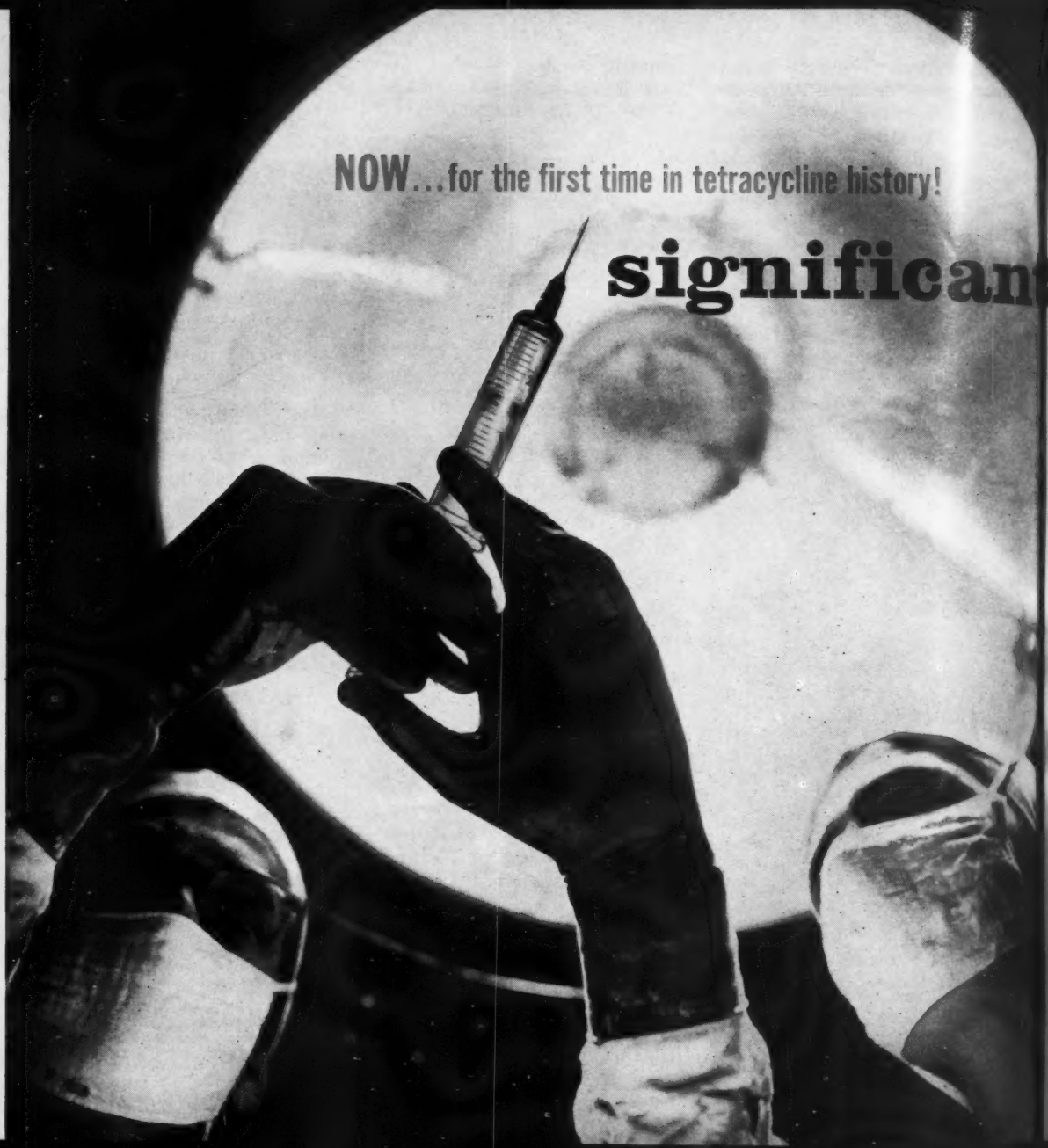

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TETREX (tetracycline phosphate complex) (tetracycline HCl activity).....**250 mg.**

Xylocaine* hydrochloride ..... **40 mg.**

plus ascorbic acid 300 mg. and magnesium chloride 46 mg. as buffering agents.

**® of Astra Pharm. Prod. Inc. for lidocaine*

SUPPLY: Single-dose vials containing TETREX – tetracycline phosphate complex – each equivalent to 250 mg. tetracycline HCl activity. Also available in 100-mg. single-dose vials.

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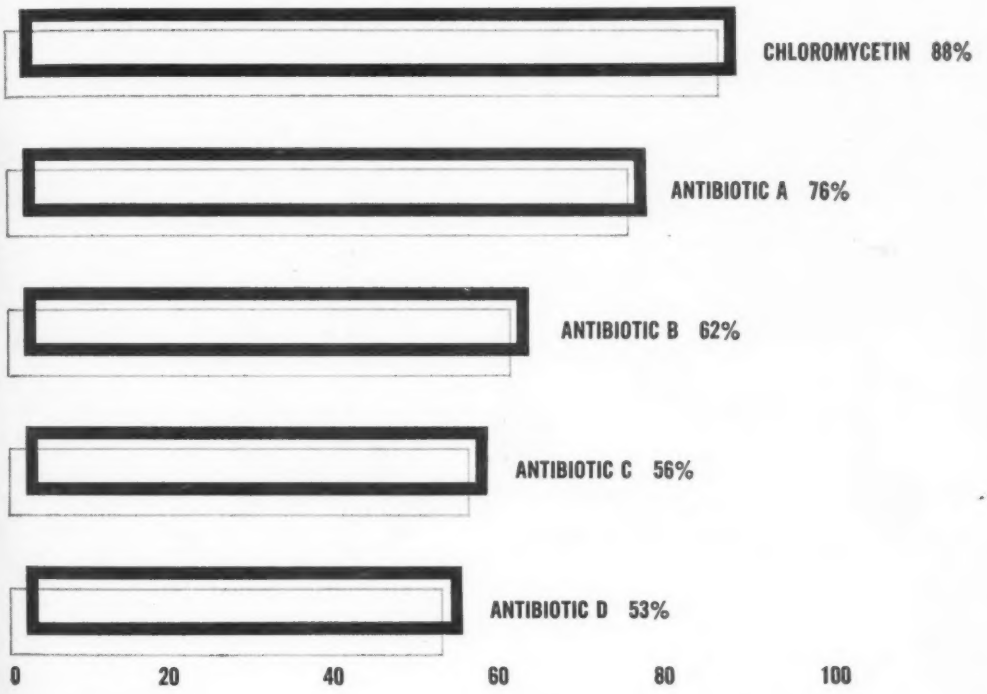

*Adapted from Ditmore, D. C., & Lind, H. E.: *Am. J. Gastroenterol.* 28:378, 1957. Organisms tested were isolated from stools of 48 patients.

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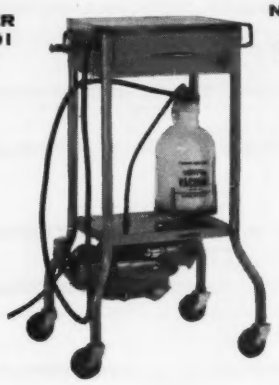

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These always-popular and dependable small-hospital units now offer you many of the quality features of the finest cabinet models... Underwriters' approval for Class 1, Group C ethyl-ether atmospheres... the exclusive Gomco Aerovent Overflow Valve, automatic protection against suction overflow.

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"The new post-op in 24 kept complaining of pain all night....

I hardly had time for anything else..."

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1. The most potent narcotic presently available, natural or synthetic;

2. More prolonged analgesic effect (from 6 to as much as 8 hours);

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A Visit to "Surgery Island"

Pediatrics

All aboard *The Baptist Memorial*

FOR children at Baptist Memorial Hospital, Memphis, Tenn., surgery is neither bewildering nor frightening. Instead, it becomes an adventurous trip to "Surgery Island," thanks to *A Sea Captain's Voyage,* an ingenious coloring book designed in 1956 by student nurses in pediatrics at the hospital.

Drawings for the 12-page booklet, some of which are reproduced here, were done by Marion Mason, then a senior nursing student.

Opening with the young sailor's arrival aboard the hospital cruiser, *The Baptist Memorial,* the drawings acquaint the child with his surroundings and prepare him for the pre- and postoperative care he will receive as well as his actual trip to surgery. In the final picture, the sailor is discharged from "Port 4th Madison-East," for a vacation cruise home.

Produced in the hospital's print shop at a minimum cost, the book has proved a hit with both the children and their parents as well as the hospital staff.

(*Continued on next page*)

Making sure everything is shipshape

Aweigh-ing we go

Destination sighted—full steam ahead

Back in port

NAME OF CAPTAIN: _____

DATES OF VOYAGE: _____

SHIP'S DOCTOR: _____

SHIP'S CREW: _____

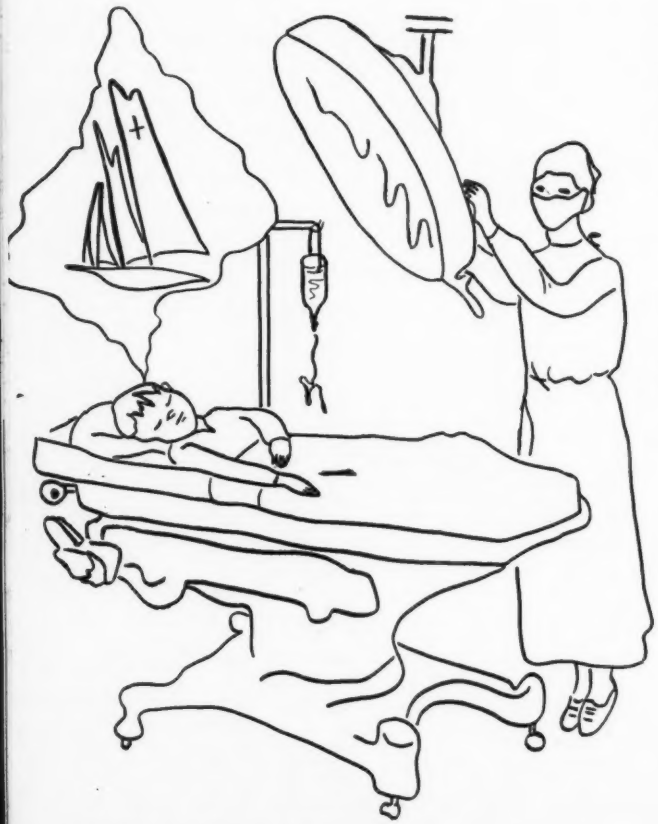
_____

_____

_____

CARGO:
(GIFTS)

_____



Naptime on Surgery Island

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Maintain the most advanced sterilizing techniques . . . within minimum operator time

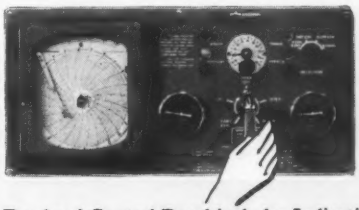
The new Square Dressing Sterilizers are research-designed to meet the most exacting of hospital needs . . . with minimum demands upon the time and attention of operating personnel.

The roomy square chamber readily accepts three large trays . . . for maximum production and dependable sterilization of dressings, tray sets, syringes and needles, rubber gloves, flasked fluids and related surgical supplies.

Made in the Amsco tradition for long, dependable service, the Square Dressing Sterilizer reflects the skills of more than sixty years of thoughtful and continuing research.

Write for Bulletin C-162

Unitized Control Panel



Eye level Control Panel includes Indicating — Recording — Controlling Thermometer and Cyclomatic Control. Simple, direct and positive, Cyclomatic Control begins timing when the selected temperature is reached, sterilizes, exhausts, and dries the load . . . AUTOMATICALLY. Saves steps and time for the operator, materials and steam for the hospital, and worry and uncertainty for the staff.

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(Advertisement)

Disposable Syringe Medication

A Review of Advantages and Three Outstanding Examples

AN INCREASED TREND toward the acceptance and use of disposable syringe medication is evident in hospitals throughout the country. Many "standard" hospital parenteral products are now being offered in this relatively new dosage form by pharmaceutical firms. Consideration of some of the advantages of disposable items helps to account for this increasing demand.

Assured Sterility

Since some manufacturers (*e.g.*, Organon) supply a completely sterile disposable needle and syringe with the cartridge of medication, the danger of inducing infectious hepatitis or pyrogenic responses in patients is greatly reduced. In addition, the disposable units may also reduce the incidence of serum sickness and anaphylactoid reactions in hospital personnel. Protection is afforded the person preparing the injection, since no withdrawal of a needle from a vial is necessary. Thus there is little risk of puncturing or scarifying his skin.

Expedites Medication and Charges

The time consumed by nurses and pharmacists in preparing injections is greatly reduced through use of disposable units, since these are always ready for immediate use. This allows nurses to spend more time in actual patient care. In addition, since the disposable unit is completely used up after each injection, the patient need not be charged for a full multiple-dose vial nor need the hospital pharmacy assume the loss for a partially used vial.

No Waste

Precision dosages are assured in the disposable units. This decreases waste of medicament, facilitates inventory control, and increases the efficiency of the hospital pharmacy. In addition, central supply operating costs are reduced through fewer syringe breakages, and reduced need for washing, assembling, sterilizing and storing hypodermic equipment.

Better Patient Psychology

Patient comfort and well-being are increased when the patient becomes aware that the needles are used only once and discarded. In addition, each needle is new, burr-free, and sharp, minimizing the pain on injection.

Economy

Some manufacturers (*e.g.*, Organon) price their disposable units so that the hospital pays only the cost of the medication itself plus the manufacturer's cost for the disposable needle and syringe. This helps make medication administered in disposable units economical, and, when the other advantages of disposable units are considered, a real advance over the use of standard hypodermic equipment with multiple-dose vials.

In line with the trend toward increased hospital usage of disposable syringe medication, Organon Inc. of Orange, New Jersey, a pharmaceutical firm with more than two decades' experience in the manufacture and marketing of quality parenteral products, recently introduced three of its hospital products in disposable unit form. These products are Cortrophin®-Zinc, Liquaemin® Sodium, and Adrestat® (F). Each of these products is available in a package containing a 1-cc cartridge of medication and a sterile B-D®* Disposable Syringe. The packaging of this Organon disposable unit is unique in that the needle and syringe are packaged in a sterile plastic bag, assuring sterility to the moment of use.

Cortrophin-Zinc is Organon's exclusive aqueous suspension of long-acting corticotropin (ACTH) with zinc hydroxide. It provides therapeutic ACTH activity for far longer periods than can be obtained with ACTH in any other vehicle. In disposable units, Cortrophin-Zinc 1-cc cartridges are available in two strengths: 40 U.S.P. units of ACTH per cc, which provides ACTH activity for 72 or more hours, and 20 U.S.P. units of ACTH per cc, which provides ACTH activity for 36 or more hours. With its wide range of indications (over 100), Cortrophin-Zinc in disposable unit form is a valuable hospital item.

Liquaemin Sodium (Heparin Sodium) is America's first and finest heparin. Its usefulness in the prophylaxis and treatment of thromboembolic and atherosclerotic disease is well established. In disposable units, Liquaemin Sodium 1-cc cartridges contain 20,000 U.S.P. units of heparin sodium (approx. 200 mg.) in aqueous solution. This strength and form of Liquaemin provides prolonged anticoagulant activity equal to that of the same concentration of heparin in gelatin, and without the inconveniences of a gelatin menstruum.

Adrestat (F) is Organon's systemic hemostat (Carbazochrome Salicylate) indicated in the prevention and control of bleeding and oozing. In disposable units, Adrestat (F) 1-cc ampuls contain 5 mg. of adrenochrome semicarbazone (as 130 mg. carbazochrome salicylate**). This form of Adrestat (F) is particularly useful in emergency clinics and for pre- and post-operative use.

Further information on these three products as well as extra copies of this article for use in presenting the advantages of disposable syringe medication to Formulary or Therapeutics Committees may be obtained by writing to Hospital Sales Department, Organon Inc., Orange, N. J.

References: Bogash, R. C. and R. Pisanelli, *Hosp. Mgt.*, *80*:82 (Nov.-Dec.) 1955. Hunter, J. A., *et al.*, *Hosp. Mgt.*, (Mar., Apr., May) 1956. Skolaut, M. W., and W. H. Briner, *Bull. Amer. Soc. Hosp. Pharm.*, *14*:675 (Nov.-Dec.) 1957. Tinker, R. B., *Bull. Amer. Soc. Hosp. Pharm.*, *13*:319 (Jul.-Aug.) 1956. (These references indicate sources of factual material and do not imply use of the preparations described herein.)

*T.M. Reg. Becton, Dickinson & Co. **U.S. Pat. Nos. 2,581,850; 2,506,294

Congress Stresses Vital Role of Nurse in Infant And Maternal Care

OB DEPARTMENT

Over 1,700 people attended the second Illinois Congress on Maternal and Infant Care, held in Peoria in February, under the sponsorship of the Illinois Committee on Maternal Welfare. During the three-day meeting, Julius M. Kowalski, M.D., Princeton, was named chairman-elect of the Committee, Arlene S. Krieger, R.N., Chicago, secretary, and George K. Hendrix, Springfield, treasurer. Willard C. Scrivner, M.D., East St. Louis, is chairman.

The following are abstracts of selected papers presented at the meeting.

Handwashing for Nurses Stressed To Combat Nursery Infections

Leaving Vernix on Body Protects Baby, Prevents Growth of Organisms

About 80 percent of hospital personnel can be presumed to be carriers of staphylococcal infections.

The widespread use of aseptic technics and antibiotics has cut down the incidence of staphylococcal infections in the hospital nursery; now these infections are spread mostly by personnel who pick up the bacteria from outside sources of infection. These sources include generalized septicemia, mastitis, meningitis, osteomyelitis, and skin pustules.

The nurse has an important role in preventing infections. The head nurse should work with the staff to develop aseptic technics. An example of this is to set up a schedule determining who handles clean and soiled linen and how.

Air-borne contamination and unwashed hands of nurses are the two most important factors in spreading infection. Nursery personnel must be well-trained. The importance of hand-washing cannot be stressed too much.

Unfortunately, there is always a tendency to do something antiseptic for the baby. The best thing to do for the baby in regard to skin care is to leave him alone. The infant's face should be clean and may be washed, but the vernix should remain on the body. It will disappear in 24 to 48 hours and, in the meantime, it will serve as a protective media that will prevent the growth of staphylococci.

Babies will show symptoms about five days after exposure to staphylococcal infection (mothers, not for about 14 days). If skin pustules develop, the baby should be removed from the nursery and the causative organism determined as quickly as possible.

Active treatment should be given to the pustules by applying a local antiseptic; one containing 50 percent

(Continued on next page)

Below, left: At registration desk for congress, Sister Ursula, obstetrical supervisor, St. Joseph's Hospital, Keokuk, Iowa, stops to chat with Sister Pius, obstetrical supervisor, Sacred Heart Hospital, Fort Madison, Iowa. Below, right: Frederick H. Falls, M.D., Oak Park, Ill., emeritus professor and former head, department of obstetrics and gynecology, University of Illinois College of Medicine, shows his exhibit on the maternal welfare program in Illinois to Lorine Lewis Hayes, delivery room supervisor, St. Mary's Hospital, East St. Louis, Ill., and Sister M. Adelpis, supervisor of obstetrics at St. Mary's.

alcohol is best. The baby should be treated generally with an antibiotic; penicillin may be used prophylactically.—*Heyworth N. Sanford, M.D.*, professor of pediatrics, University of Illinois College of Medicine, Chicago.

Training, Composure, Tact Called Essential for OB Nursing

Extent of Responsibility Should Be Outlined in Set Hospital Policy

The responsibilities of the obstetrical nurse vary depending upon the amount of training she has received. If proper training is given in the hospital, she will not particularly need post-graduate training.

The OB nurse is a partner with the obstetrician. She should learn this partnership at home in her own hospital. Often too much is expected of a young OB nurse who lacks experience and may have only a smattering of training. Teaching should be emphasized.

Enjoying a coffee break in hospitality room set up by Women's Auxiliary are (l. to r.): Patsy L. Guinand, head nurse, Chicago Lying-in Hospital; Vida B. Sloan, consultant nurse, maternal and child health, Illinois Department of Public Health, Springfield; and Helen B. Fraser, M.D., director, maternal and child health, Kentucky State Department of Health, Louisville.

The nurse should know how to interview the patient; she should be aware of the key questions and should be able to present the information to the doctor. Diplomacy is important for the OB nurse; she must learn to be tactful when talking to the doctor in front of the patient.

Stuart Abel, M.D. (l.), assistant professor, Northwestern University Medical School, Chicago, who spoke on induction of labor, discusses meeting with Heyworth Sanford, M.D., professor of pediatrics, University of Illinois College of Medicine, Chicago, who addressed luncheon conference on staph infections.

The OB nurse should be warm and sympathetic—to a point—and should give the patient emotional as well as physical care. The father should not be treated as someone in the way; he can often be of really great help.

All the factors of good nursing are needed in the labor room, but above all, composure. The nurse cannot lose her head in emergencies.

The nurse should know not only OB nursing, but also something about obstetrics. She should keep informed on newer trends, should know how to judge the progress of labor, and should know how rectal and cervical examinations are done.

It is up to the hospital administrator to see that a definite policy is set for the amount of responsibility the OB nurse can assume. Whether or not she should be expected to give anesthetics, for instance, should be clearly stated. Policy should be determined at meetings between all doctors who deliver babies and the OB nurses. Policy should be stated in the form of written rules.—*E. Bradley Sylvester, M.D.*, Joliet, Ill.; *Catherine E. Sheckler, R.N.*, Chicago; and *Boyd E. McCracken, M.D.*, Greenville, Ill.

Study OB Service to Re-allocate Beds Before Abandoning Isolation

Administrator Must Keep Close Daily Count

The current pressure for the removal of the traditional isolation of maternity patients should stimulate the administrator and obstetrical staff to evaluate carefully the present allocation of beds to obstetrics.

(Continued on page 84)

After luncheon meeting on allocation of beds in OB service, Speaker Hilda Kroeger, M.D. (far right), administrator, Elizabeth Steel Magee Hospital, Pittsburgh, Pa., talks with (l. to r.) Pat Schackmann, assistant head nurse, OB department, Graham Hospital, Canton, Ill.; Ruth Heisel, head nurse, nursery, Hinsdale (Ill.) Hospital; and Ruth Doran, consultant, maternity nursing, Children's Bureau, Social Security Administration, Department of HEW, Washington, D.C.

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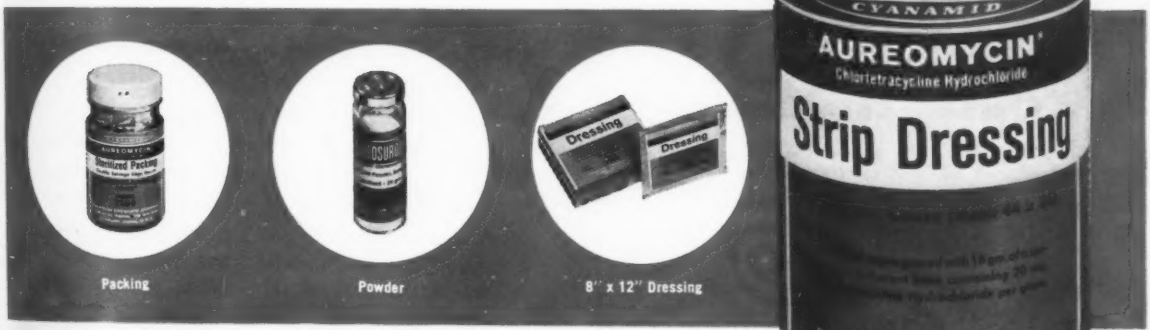

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OB DEPARTMENT

(Continued from page 82)

Whatever changes possible should be made before yielding to the admission of other patients to the maternity floor. This theory does not preclude the admission of "clean" gynecological patients to maternity accommodations, but it suggests that all other changes should be made before breaking the isolation.

In spite of today's high-cost hospitals, isolation is still to be desired, more for the protection of the infant than of the mother. In both small and large hospitals, close daily supervision of this section by a member of the top administrative staff is necessary.

The "use of unused beds" need not refer to placing other than maternity patients on an obstetrical floor. This term may also refer to a changing allocation of beds, which is being done despite the tremendous changes in patient stay and even in the number of deliveries.

Some suggestions for making the greatest use of obstetric beds are:

1. Pre-registration of patients so that anticipation of case load can be estimated.

2. Close daily scrutiny of admissions to obstetrics and of obstetrical census.

3. Provision of labor rooms to which patients are admitted directly. This releases postpartum beds until after the patient is delivered.

4. Establishing a close working relationship with physicians to shorten patient stay and postpone inductions at peak census periods.

5. Moving mothers without babies off obstetrical floor at peak census.

6. Making most of the accommodations similar—maternity patients are usually happy in rooms of two or more beds. Telephones should be provided whenever possible.

Before we are tempted to put other than maternity patients on obstetrical floors, we should take a second look at our bed allocations. We should not be swayed by vested interests of services.

Re-allocating maternity beds is an easier task in services of 20 beds or more. However, there are two suggestions for helping small services make better use of maternity beds.

First, review the possibility of assigning rooms and nursing care for a modified rooming-in plan, so that efficient use can be made of nursing time. Segregation can still be kept by setting aside perhaps several five-bed units instead of a separate 15- to 20-bed unit with a segregated nursery.

Second, community planning should attempt to develop fewer, but larger, maternity sections. Hospitals are a community service; they should not be in competition with each other. So why set up uneconomical units in every hospital just because a maternity unit has always been considered an essential element of a general hospital?—*Hilda H. Kroeger, M.D.*, administrator, Elizabeth Steel Magee Hospital, Pittsburgh, Pa.

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Surgical Induction May Result in Infection, Cord Prolapse, or Hemorrhage

The induction of labor, by either medical or mechanical means, may be undertaken for certain obstetrical or medical complications or it may be purely elective.

However, if it is to succeed, the following obstetrical situations should exist: the cervix should be soft and in the axis of the vagina, it should be 40 to 50 percent effaced, and it should be dilated at least 2 cms.; the vertex should be presenting, and it should be fixed in the pelvis; the pregnancy should be at, or near, term. Induction of labor is contraindicated in face, brow, and scapular presentations.

The medical indications for the termination of pregnancy are toxemia of pregnancy, diabetes, erythroblastosis, fetal death, ruptured membranes, and abruptio placenta.

Currently, the most widely used mechanical (surgical) method is simple amniotomy, or rupture of the membranes. This may be accompanied by preliminary stripping of the membranes.

The most widely employed medical method of induction is the use of pituitary extract, usually in the form of pitocin. The best controlled method of

(Continued on page 89)

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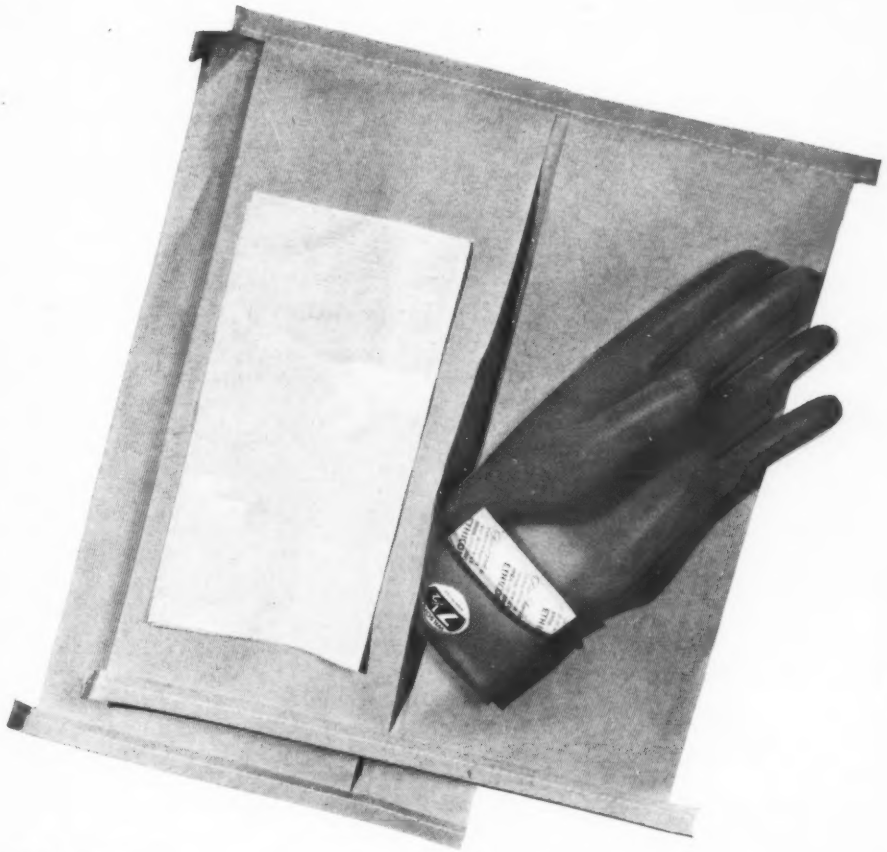

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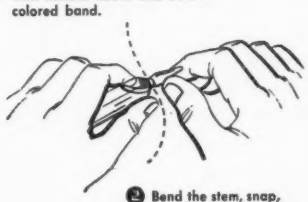

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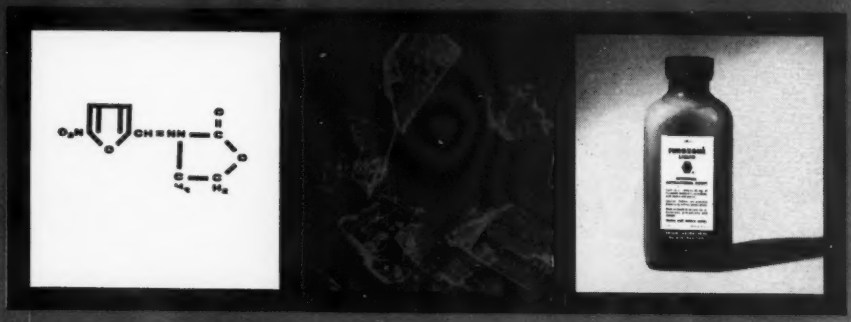

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1. Ponce de Leon, E.: Antibiotic Med. & Clin. Therapy 4:816, 1957.
2. H. W. McFadden and M. M. Musselman: Personal communication to Eaton Laboratories.

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(Continued from page 84)

administration is by infusion, in a dosage of 10 minims diluted in 1,000 cc. of 5 percent dextrose.

If all the criteria for induction are met, pitocin should be successful almost 100 percent of the time. If the first dosage fails, a second attempt within 24 hours is usually successful. If pitocin fails a second time, abdominal delivery can be accomplished safely. There is no evidence that a failure in pitocin induction holds any danger to the mother or child.

The following rules for indication and administration of pitocin assure its being a safe and reliable aid:

The physician must be in attendance at all times during the administration of pitocin.

The drug must be used only in a hospital where ether and oxygen are immediately available.

It should not be used in a case of suspected disproportion.

It should not be used in cases where previous cesarean section or extensive myomectomy has been performed.

It should not be used in cases of fetal distress, malpresentation, grand multiparity, placenta previa, or in patients with overdistention of the uterus, such as is found with hydramnios and multiple pregnancy.

Surgical induction carries the potential hazards of infection, prolapse of the cord, and trauma to the placenta if the membranes are stripped.

The decision to induce labor is dependent on careful evaluation of the cervix, presentation of the baby, the station, the period of gestation, and the size of the baby. It is most safely accomplished medically with pitocin infusion.

Elective induction has a place in obstetrics in selected cases but it is impossible to justify its widespread use.—*Stuart Abel, M.D.*, assistant professor of obstetrics and gynecology, Northwestern University Medical School, Chicago.

Well-Informed Nurse Termed Vital in Care Of Baby With Erythroblastosis

Commonest Newborn Emergencies Listed As Respiratory, Gastrointestinal, Cardiovascular

The common emergencies which occur in the newborn between the time the baby is admitted to the nursery and the time of his discharge are: respiratory, gastrointestinal and cardiovascular (congenital heart disease and erythroblastosis) emergencies, and infections.

Cardiovascular Emergencies

The greatest opportunity to reduce newborn mortality is in erythroblastosis. Team organization involving the pediatrician, obstetrician and nurses is essential. Skill in diagnosis, prognosis, and the technicalities of exchange transfusion is a necessity. Delay is costly.

The obstetrician and pediatrician have their prescribed duties in these cases but the nurse plays a vital role. Often it is the well-informed nursery supervisor who must use her clinical judgment to alert the doctor of the baby's deterioration.

The nursery nurse should be familiar with the signs of erythroblastosis; she should be alert for Rh mothers and inform the house staff and pediatrician; she should tag the bassinet of each baby of an Rh mother with a distinctive color so that every person passing it will be alerted to note jaundice or other signs of trouble; and she should keep the infant's cord stump moist for a day or two in case an exchange transfusion must be done.

Little can be done in the newborn period for congenital malformation of the heart, other than to administer oxygen.

Respiratory Emergencies

In respiratory emergencies, the only really effective measures are to clear the air passages, keep the baby warm, place the baby in oxygen, and make an effort to inflate the lungs.

Using machines to inflate the lungs has posed a problem because of the difficulty in getting the machine to synchronize with the infant's irregular respiration. We are currently investigating the G.B.L. respirator, with which an experienced operator can synchronize short surges of high pressure with the child's inspiration. In cases of hyaline membrane disease, high humidity added to oxygen is helpful.

The injection of respiratory or cardiac stimulants is of little value. Artificial respiration is traumatic and frowned upon by many.

Gastrointestinal Emergencies

Esophageal atresia is characterized by regurgitation of mucus. The first feeding causes coughing and choking. Inability to pass a firm catheter confirms the diagnosis. Surgery should done within 24 hours.

Congenital atresias of the gastrointestinal tract, which may be single or multiple, are characterized, immediately after birth, by excessive and almost continuous vomiting, bile-stained vomitus, and abdominal distention with deep peristaltic waves. Surgery must be done in 24 to 36 hours.

Partial obstructions of the gastrointestinal tract are caused by external pressure from such conditions as enteric cysts, bands, malrotation of the bowel, or twists. Symptoms are similar to those of atresia but are milder. An infant whose bowel is obstructed by inspissated bile and meconium rarely can be saved.

Infections

Nursery infections must be treated with the most rigid rules of isolation and asepsis. The aseptic technics should approach those used in an operating room.—*Alfred D. Biggs, M.D.*, associate clinical professor of pediatrics, University of Illinois College of Medicine, and chairman, department of pediatrics, St. Luke's Hospital, Chicago.

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THE LAB

Use of Micro Technics Expanding To All Phases of Laboratory Work

By Samuel Natelson, Ph.D.*

• Micro technics are gradually being introduced into all phases of laboratory work.

These technics can be readily performed by the routine laboratory. Today, no special laboratory need be set up for the purpose. In addition, micro methods offer significant advantages in speed, simplicity, and accuracy, particularly for blood studies and clinical chemistry determinations.

In the field of blood testing, for instance, speed may be particularly important. The use of micro technics may decrease the time before a transfusion by as much as an hour. And this may mean the difference between survival or death for the patient.

Imagine a case in which the physician is unable to draw blood from a severely injured patient who requires transfusion as rapidly as possible. After many minutes of futile-vein probing, the doctor is forced to subject the patient to a cutdown in order to collect a sample for cross-matching. After the sample is collected, the cross-match must be done; only then can the transfusion be started.

The danger here, obviously, is the loss of valuable time. It is true that, in many such patients, a cutdown eventually will be necessary. But that is a time-consuming process. If a laboratory equipped to do micro procedures is available, any technician can draw a few drops of blood from the heel, finger, or ear of the patient and have the properly cross-matched blood ready for transfusion by the time the physician has finished the cutdown.

While almost everyone would agree that, in such an emergency, it is desirable to use micro technics, many people still doubt the value of these methods for routine use in non-emergencies. Many are still inclined to believe that micro technics are difficult, impractical, and suspiciously inaccurate.

Nothing could be further from the truth. In actual practice, micro technics, when properly performed, are generally more accurate than the conventional macro technics.

The feeling also persists that "micro" is synonymous with laboratory methods used for pediatric patients or prematures. In truth, the primary stimulus for the development of methods using smaller samples of blood came first from a desire for greater accuracy and speed so that the patient could receive earlier treatment, and second, from an improved understanding of the significance of the levels of the numerous components of blood in the diagnosis and treatment of disease.

As the interrelationship of the various blood components began to be better understood, it became apparent that the level of as many as 10 or 20 components needed to be known before the values obtained could be translated into an evaluation of the condition in terms of diagnosis and treatment.

For example, formerly an evaluation of the electrolyte balance in a dehydrated patient would require an analysis only for carbon dioxide or chloride or both. Today, these two values, alone, are inadequate. The minimum demand would be for determination of sodium, potassium, chloride, carbon dioxide, pH, hematocrit value, protein, and urea levels, all from the same sample.

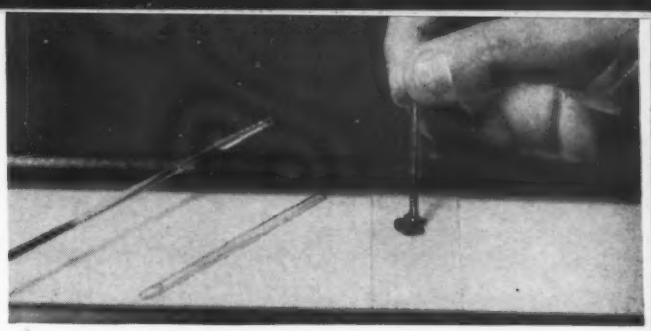
The fact that impairment of the function of an organ may be reflected by changes in blood levels of

*Department of Biochemistry, St. Vincent's Hospital of the City of New York.

Technician prepares to obtain blood specimen for micro analysis. She will prick the finger or toe and allow the blood to flow into one of the tubes, shown on the tray. Micro technics, often considered useful only for pediatric patients, can be adapted for routine blood studies.

(Reprinted from Natelson, Samuel, MICROTECHNIQUES OF CLINICAL CHEMISTRY FOR THE ROUTINE LABORATORY, 1957, courtesy Charles C Thomas, Publisher, Springfield, Ill.)

Technician seals tube containing blood specimen with sealing wax. Tube is then centrifuged so that serum and packed red cells may be obtained for chemistry or serology studies or blood bank use.



Packed red cells are dropped on slide for typing. Cut tube containing serum lies on box. Leaning against side of box is blood-collecting tube already centrifuged.

various constituents has led to the use of multiple tests for evaluating the condition of even one organ. When functional changes in the liver are suspected, for example, a blood sample may be analyzed for bilirubin, phosphatase, cephalin flocculation, thymol turbidity, protein, albumin to globulin ratio, prothrombin time, fibrinogen, urea, and cholesterol.

Each of these tests evaluates a different function of the liver, and each presents evidence to the clinician for evaluation. Similarly, the function of other organs may be evaluated by different batteries of tests, which become increasingly elaborate as the understanding of disease improves.

In addition, it was found that a better interpretation of the significance of the levels of these many blood components could be made by determining serum or plasma levels, rather than whole blood levels. This fact cut approximately in half the sample available for analysis.

These developments resulted in a decrease in the amount of blood available for any particular determination.

Because the amount of blood which can be safely drawn from a patient is obviously limited, the chemist who uses 1 ml. of plasma or serum for each test would require 10 ml. for 10 tests. This would represent approximately 20 ml. of whole blood. Since the tests are often done in duplicate, at least 40 ml. of blood would have to be drawn to do the tests properly. Furthermore, in patients with an acute electrolyte imbalance, the tests are often repeated in the space of a few hours, before and after treatment, and sometimes daily, thereafter, for many days.

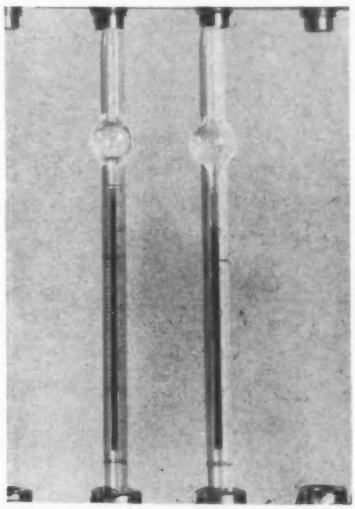
Even in an acutely ill adult patient, one would hesitate to draw such an amount of blood. In children or infants, withdrawing even 10 ml. of blood is out of the question, since such an amount is a significant part of an infant's volume.

It was this situation which forced the laboratory technician to modify his methods to the use of smaller quantities of blood. When such methods were developed they also solved many of the problems involved in obtaining blood samples.

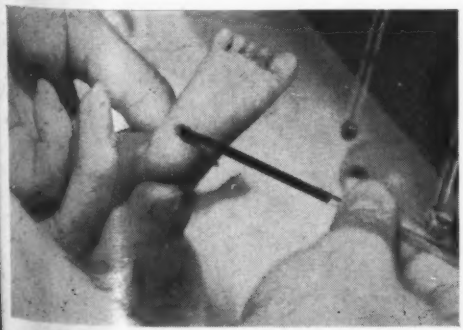
In infants, venous blood has to be obtained from the femoral, jugular, or scalp veins. All of these methods require the services of a skilled physician. However, sufficient blood for micro analysis can be withdrawn from the heel or fingers. This can be readily obtained by the technician who is already skilled in the technics used for blood counts.

In many adult patients, also, venipuncture presents difficulties. In patients receiving intravenous fluids for extended periods of time, it is advantageous to reserve easily accessible veins for administration of fluids, which can be done if the blood for daily analysis is obtained from a finger prick. In patients with extensive burns involving the extremities and requiring intravenous fluid therapy, daily blood samples for analysis may be obtained from the ear or almost any other unburned surface. In edematous patients, venipuncture is sometimes difficult. Even in the case of circulatory collapse, usually enough blood circulates to the ear lobe to provide

(Continued on page 96)



Apparatus demonstrates method of obtaining blood sedimentation rate in micro sedimentation tubes. Approximately 0.05 ml. of blood is needed for this test.



Technician demonstrates method of obtaining blood from infant by heel prick. Blood is drawn into narrow tube by capillarity and gravity action.

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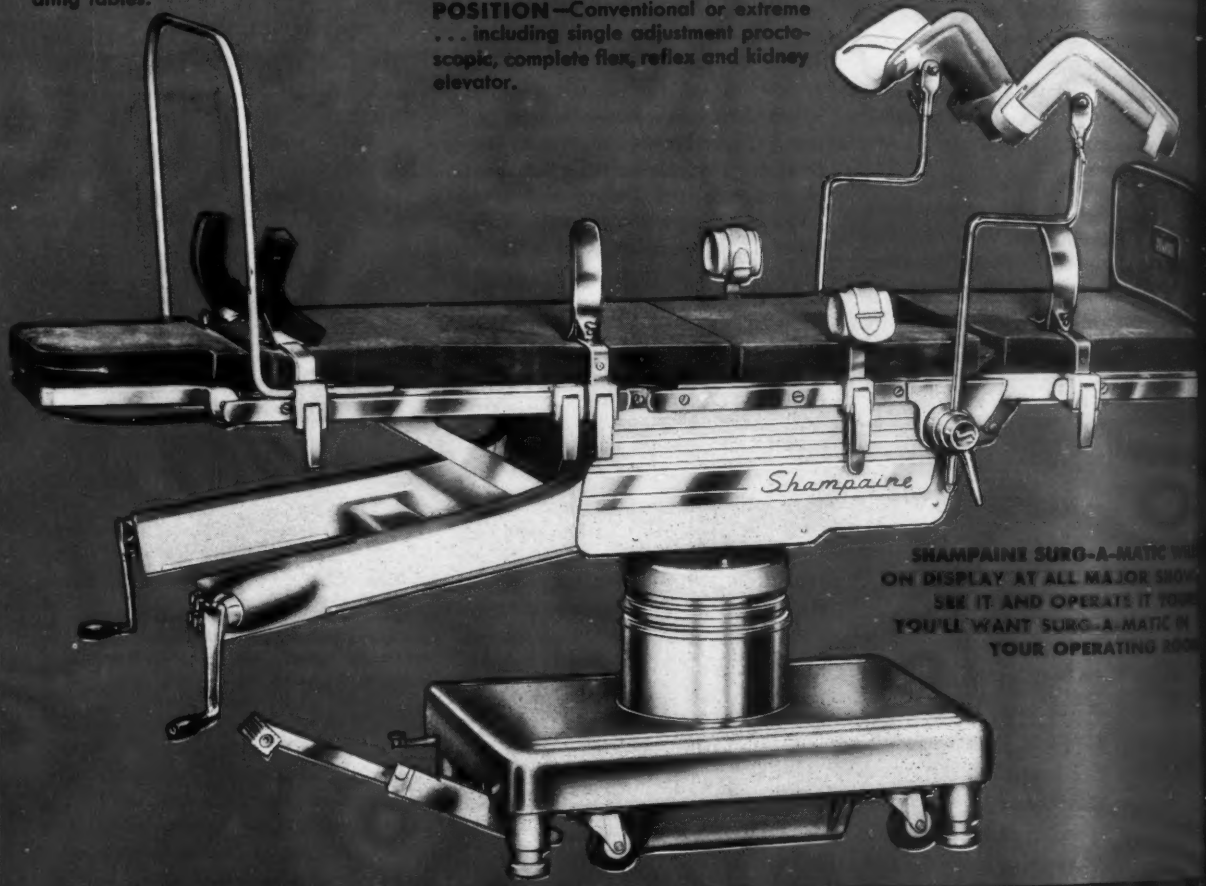

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Masked technician prepares blood specimen, obtained from fingertip, for bacterial culture. Blood is being transferred to liquid media in test tube where it will be allowed to incubate.

THE LAB

(Continued from page 93)

the sample for analysis. Thus, delay for a cutdown to the vein is not necessary.

Hence, the laboratory equipped to do micro analysis need rarely fail to report an analysis because an insufficient quantity of blood was delivered. The ease of collecting samples has another advantage. In surveys of large groups, for statistical or screening purposes, blood from the fingertip may be collected easily by relatively unskilled help. It is a simple matter to teach this technic to a group of teachers or even high school students who might assist in collecting blood from large numbers of people. The addition of micro technics to the repertoire of the laboratory thus extends the range of patients who may benefit from modern clinical knowledge. In many cases, such technics provide the only manner in which the requirements of the physician for a complete evaluation may be met.

One concept in this field needs to be stressed. Micro analysis implies assay of a small sample. It does not necessarily mean minute equipment or micro measurements beyond the size of the original sample. Nor does it usually require special equipment beyond that normally found in the clinical laboratory.

The use of small samples is not a new development. As long as 50 years ago, the Sahli pipet, which measures .02 ml., was introduced into the clinical laboratory. A sample of blood taken with the Sahli pipet is usually diluted to approximately 5 ml. for reading the hemoglobin level.

The alternative method would be to take 1 ml. of blood and dilute it to 250 ml. in a volumetric flask. The latter method is impractical for the routine laboratory, and it is no more accurate than the method using the Sahli pipet. That statement may seem startling to some, but it can easily be proved in practical measurements.

The Sahli pipet is approximately 80 mm. from tip to mark. The eye can readily see an error of 1 mm. from the mark. Since the Sahli pipet is used as a washout pipet, the total error that might be attained is one part in 80. In the conventional 1 ml. pipet, the accuracy stipulated is approximately 1.2 percent, which is also about one part in 80. Actually, this figure is not achieved with the conventional pipet because that type is not used as a washout pipet; hence hold-back of serum is a variable factor.

The macro pipet was calibrated originally with water rather than with serum. Thus, combining these errors, it can easily be demonstrated that the Sahli pipet, because of the way it is used, is actually as accurate, or more accurate, than the conventional pipet. Furthermore, note that the subsequent measurements, such as adding 5 ml. of a diluting solution, or obtaining a reading on the solution in a colorimeter, are no different in manner than the conventional methods. The hemoglobin determination is, in effect, a classic example of a micro technic.

In the conventional method of sugar determination, 1 ml. of serum or blood is diluted to 10 ml. with tungstic acid. A 2 ml. aliquot is taken. This represents only 0.2 ml. of the original blood. Color is developed in a final volume of 25 ml., but not more than 5 ml. is required for reading in the colorimeter. Thus, only one-fifth of the 0.2 ml. is found in the final tube, that is .04 ml. of the original blood. It is obvious that this "conventional" technic is wasteful of material.

It is only relatively recently that hematocrit values have been routinely obtained from fingertip blood samples. Until a few years ago, at least 1 ml. of whole blood was required. Today, this determination is done in capillary tubes, with a few hundredths of a milliliter of blood, and with greater accuracy than was obtained before.

Close-up view of micro method of testing for C-reactive protein. Tube on left is negative; varying amounts of sedimentation are shown in other tubes. In actual practice even narrower capillary tubes are used and only a few hundredths ml. of serum is required.

Previously it was always the custom to use relatively large quantities of serum for serology studies. Today a flocculation can be observed in a mixture of only a few hundredths of a milliliter, and using a low power microscope or even an ordinary hand lens. Thus, Kahn tests, C-reactive protein studies, and many other determinations are rapidly being converted to micro technics.

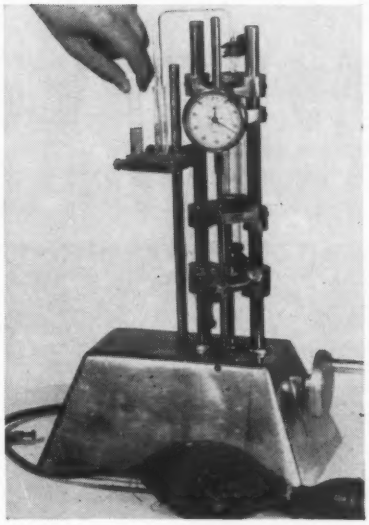
In the blood bank, only drops of blood are customarily used for typing and cross-matching. Thus, there is no need to collect more than drops of blood for these purposes.

In clinical chemistry, micro technics have found their greatest practical application. The modern laboratory of clinical chemistry performs approximately 100 to 125 different types of analyses. In recent times, many of these tests have been converted to micro technics. As a matter of fact, almost all of the technics customarily performed in the clinical chemistry laboratory, with the exception of a few, can be done with quantities of less than .05 ml., with no decrease in accuracy, and with an increase in speed.

With the modern mass production of determinations in clinical chemistry laboratories, space has become a problem. In a laboratory which customarily uses micro technics, hundreds of determinations can be performed neatly and with dispatch, in an ordinary desk space. And since gallons of reagents are not needed, the operation of the laboratory is more economical.

Many technics in clinical chemistry require small samples for proper operation or dilution to extremely large volumes. Examples are analyses for sodium and potassium by the flame photometer, and sugar determinations. Microchemists have learned that the chance of accuracy is much greater if tedious steps and transfers are eliminated from a procedure. A product of this has been the development of a large number of methods which are extremely simple and rapid because the whole reaction takes place within a test tube. In effect, many of these procedures consist of adding some reagents to the sample in a test tube, then reading the color on a colorimeter.

Micro methods, thus, have introduced speed, accuracy, and simplicity. Recent reports of comparisons of various determinations by macro and micro methods substantiate these claims.



It has been my experience that when a micro technic is introduced where a macro technic has been used, the micro technic will soon replace the macro method for routine laboratory use because of these factors of simplicity, speed, and accuracy.

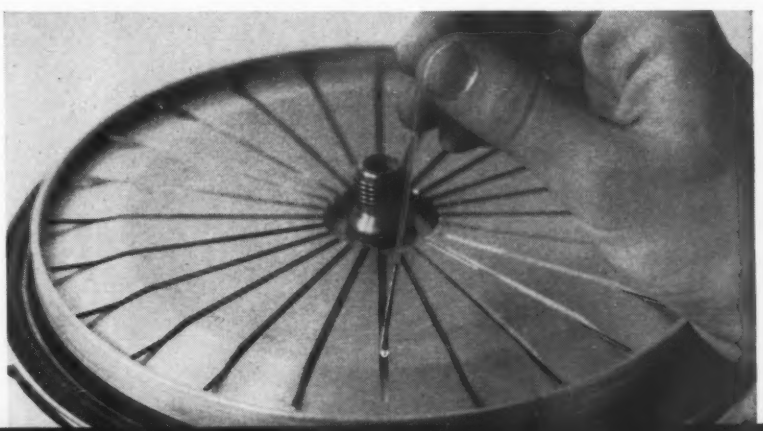
Manufacturers of chemical equipment have been stressing, in recent years, instruments for measuring minute volumes. When the instruments are designed, they are designed for the smallest practical volume, rather than for some arbitrary amount chosen by the manufacturer. Highly accurate micro pipets, micro burets and micro balances are now readily available.

It is interesting to note that today when a blood count is performed, the technician uses approximately 0.01 ml. of blood. Formerly, when an albumin/globulin ratio was performed by macro methods, relatively large quantities of blood or serum were used. Today, more information is obtained from the same test by using paper electrophoresis, wherein approximately 0.003 ml. of serum is used. This method gives not only the albumin/globulin ratio, but also the distribution of the globulins, making the determination more useful in diagnosis.

Another feature of these micro instruments and micro technics is that they are easier to learn to use. It is much simpler to turn a wheel until a color change occurs than it is to attempt to operate a buret with drop by drop additions. The refinement of ultramicro burets has reached the point at which titration with a total volume of .1 ml. of fluid can be done with much greater accuracy than in the past could be achieved by titrating with 10 ml. of fluid.

The changing significance of the word micro typifies the development in this field. In 1906, as much as 100 ml. of blood was necessary for accurate estimation of the glucose level. Therefore, when methods of analysis were introduced using 1 ml. of blood, they were called micro methods. Today, methods using 1 ml. of blood are generally recognized as macro technics.

Methods employing 0.2 and 0.1 ml. of blood were called micro methods 10 years ago. Today, these are considered macro methods—the word micro now refers essentially to volumes of less than 0.1 ml. of blood. And what today are called micro methods are the ultramicro methods of 10 years ago.



Above: Use of micro titrator* in clinical chemistry laboratory is shown. Technician compares tube already titrated with tube containing unkown to determine if end point has been reached. Titrator is operated by turning wheel (lower right) which drives syringe forward. Amount of liquid delivered by syringe is measured on dial. Right: Capillary tube is placed in centrifuge for micro hematocrit determination. After tube is centrifuged, percentage of red cells will be measured.

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1. Alexander, Edythe L.: Mod. Hosp., May, 1957.

The Book Corner

Corporate Practice of Medicine

HOSPITALS AND THE CORPORATE PRACTICE OF MEDICINE. Hospital Monograph Series No. 1. Chicago: American Hospital Association. 1957. 60 pp. $2.50.

This booklet undertakes a critical analysis of the "corporate practice rule" as applied to public and community hospitals.

Its thesis is that neither the law nor lawyers should dictate choice among the varied patterns of medical practice which are exemplified in public and community hospitals, and that within this broad range the appropriate relationship in each case should be fixed on nonlegal grounds.

The monograph is the result of an independent study conducted by Alanson W. Willcox before he became general counsel for the American Hospital Association.

Outlined are the nature and scope of the rule relating to corporate practice of medicine, the nature of the relationship between corporations and physicians which might constitute corporate practice, and corporate participation in medical practice.

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Home Care Survey

ORGANIZED "HOME CARE" PROGRAMS IN THE UNITED STATES. Council on Medical Service, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill. 57 pp. Single copies, free of charge; additional copies, $1.

Prompted by the growing interest in the home care program as part of a total medical care plan, the Committee on Indigent Care of the AMA's Council on Medical Service conducted a survey, completed in December, 1956, of such programs currently underway in the U.S.

This booklet reviews the survey findings on the origin, purposes, organization, administrative mechanics, and advantages and problems encountered in the operation of a total of 31 programs.

The committee points out that the report is not designed to evaluate such programs but rather to present the data as an aid to those concerned with this type of medical care.

Nursing Service Analysis Outlined in Two Pamphlets

Two nursing publications prepared by the Public Health Service, U.S. Department of Health, Education, and Welfare, are PHS Publication No. 496, "How to Study Supervisor Activities in a Hospital Nursing Service," and PHS Publication No. 497, "How to Study the Nursing Service of an Out-patient Department."

The booklets are third and fourth in a series developed by the Division of Nursing Resources for use by hospitals and others desiring to study nursing personnel activities.

Both manuals may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. No. 496 is 40c a copy and No. 497, 50c a copy.

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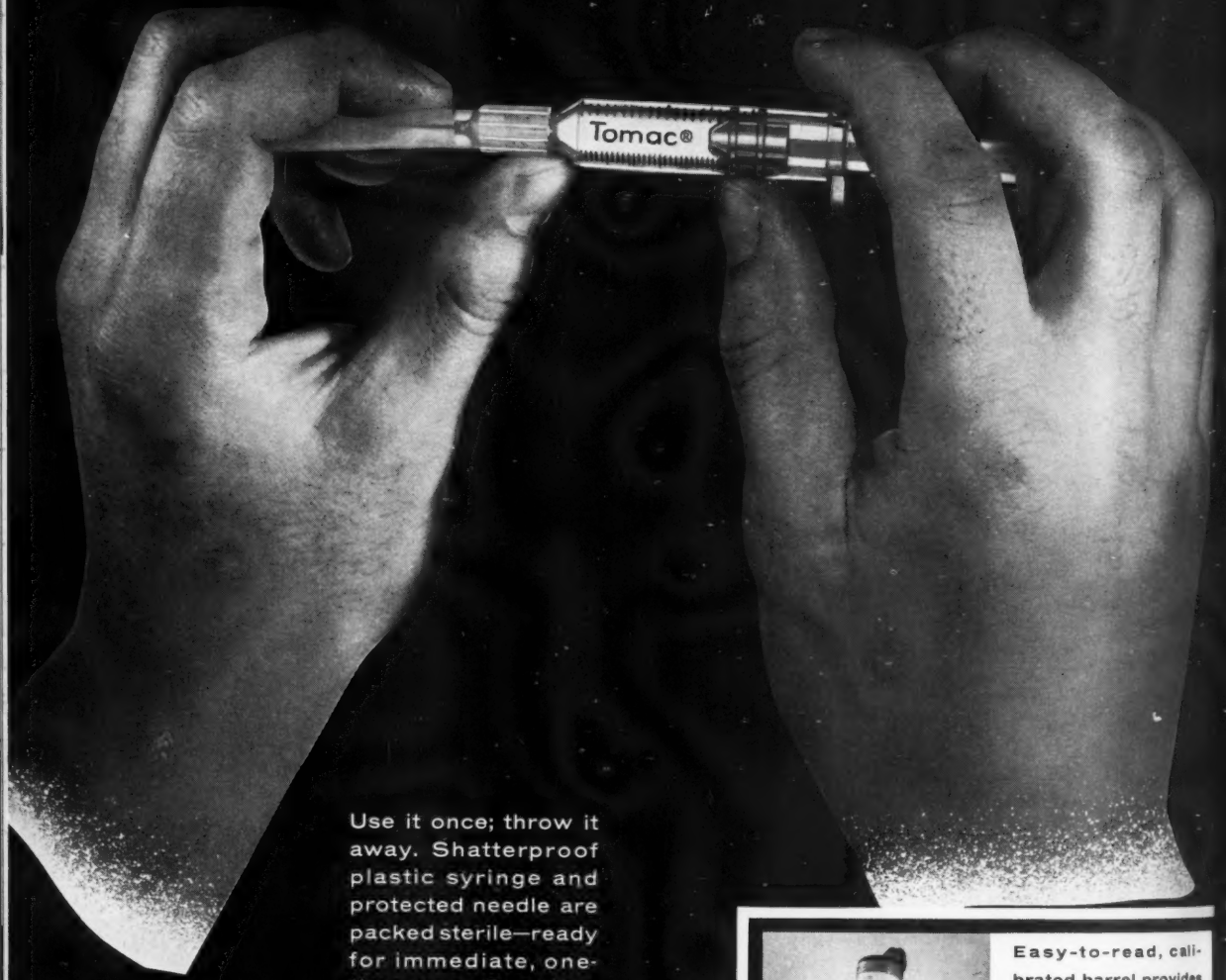

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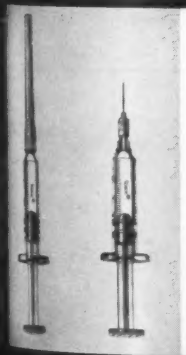

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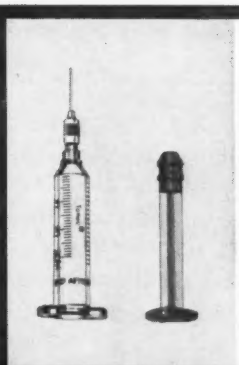

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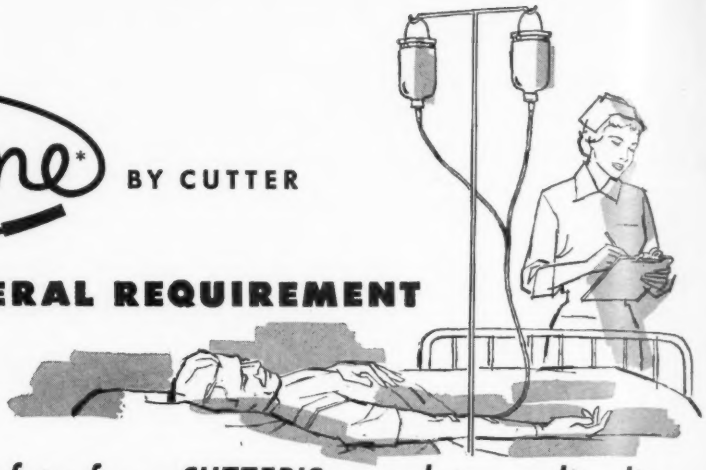

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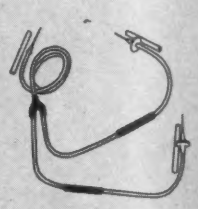
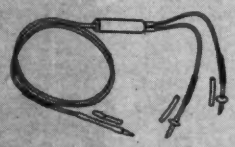
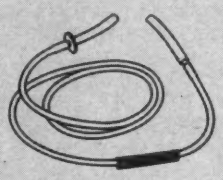
Saftiset "Streamliner"* I.V. Infusion Set	**Safticlysis*** Hypodermoclysis Injection Set	**Saftifilter "Y"*** Blood and Plasma Y-Tube Set	 **Saftidonor "Y"*** Blood Donor Y-Tube Set
 **Saftiset "Y"*** I.V. Infusion Y-Tube Set	**Saftifilter*** Blood and Plasma Infusion Set	 **Saftidonor*** Blood Donor Set	**Pediatric Scalp Vein Infusion Set**

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HOSPITAL Topics OR

Official bulletin for the
Association of Operating Room Nurses

Use of Radium, Radioisotopes In the Operating Room

By Millard N. Croll, M.D.

• There are at present no well-defined or standardized regulations covering the use of radioactive material applicable specifically to the operating room. Most of the data I shall give is substantiated by radiological practice and literature. The controversial phases, however, reflect my opinion based on my own experience and the experience of my radiological colleagues. The opinions expressed do not necessarily represent those of my institution.

Radiation, radiation hazards, and radiation safety have become bywords in our society over the last two years. Where we once had a cancerophobia, we now are developing a radiation phobia. This is due, in large measure, to improper interpretation of scientific reports, along with poor handling in the lay press.

The entire problem of radiation to the population of this country began two years ago with the release of a report, by the National Academy of Sciences, which has since been taken from the hands of competent scientists and has become a tool of the lay writer to sell newspapers and magazines and gone on to become a political football, while at the same time threatening to set back modern medicine 50 years.

When we mention the word "radiation" to the average layman, he associates it with the atomic bomb, death, and sterility. It does not necessarily mean any of these.

Radiation is the emission of rays characteristic of radioactive substances. It is simply energy. In the case of radium and radioisotopes, this energy is derived from the continual disintegration or decay of the substance, and this process continues at a specific mathematical rate for the life of the substance.

The process occurs within the atom of the substance and can be likened to thousands of small explosions, which release energy in the form of rays, having many properties—among them a "biologic effect," or the ability to alter living tissue. This effect, of course, is of prime importance. It may cause destruction of cancerous tissue, or it may likewise destroy normal living tissue if used improperly.

The only medically important radioactive material which occurs in nature is radium and its products. Radium, the solid, disintegrates to radon, the gas, which in turn follows a disintegration cascade to radium A, radium B, and radium C, which is again a solid. If the original radium is sealed within a capsule, a state of equilibrium occurs between these various stages of decay, and an essentially stable substance results.

Further work with the atom and identification of subatomic particles revealed the existence of neutrons and deuterons. In 1934, Curie and her workers found that when aluminum metal was bombarded with subatomic particles the metal showed radioactive disintegration and thus became the first artificially produced radioactive isotope. A radioactive isotope, therefore, is an element

(Continued on next page)

*Director, clinical isotope section, department of radiology, Hahnemann Medical College and Hospital, Philadelphia. This paper was presented at the fifth national congress, Association of Operating Room Nurses, Philadelphia, February 10-13, 1958.

which has been bombarded with neutrons or deuterons and thus has become unstable. The number of neutrons in the nucleus of the atom have been disturbed. The process of radioactive disintegration occurs; radiant energy or rays are given off, and a biological effect may occur.

Radioactive disintegration, decay, or breakdown, occurs at a specific rate which is characteristic of the particular substance. When half of the atoms of the substance have disintegrated, we say that the material has reached its half-life; therefore the half-life of a radioactive substance is the *time* required for it to lose one-half of its activity by decay.

This time interval is specific and different for each and every isotope. Radium has a half-life of about

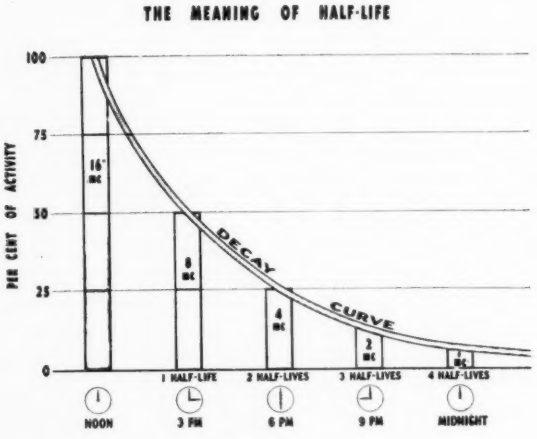

Figure 1

1,600 years, while radioactive iodine has a half-life of eight days. This means that at the end of eight days only half of the original amount of iodine is present. At the end of eight more days only half of the substance is present again. This process continues until the iodine disappears, for all practical purposes.

The methods of disposal and associated safety factors are dependent to a large degree on this concept of half-life. It is easy to see that in the case of materials with relatively short half-lives, we can dispose of them by just storing them for a period of time until they disintegrate and become harmless.

It would be proper at this point to compare radium as a naturally occurring radioactive substance with the artificially produced radioactive isotopes. The total amount of radium is relatively small, and the supply is limited. Only about three pounds of radium are available in the world today. On the other hand, the Oak Ridge Division of the Atomic Energy Commission has dispensed the equivalent of over 250 pounds of isotopes during the last six years.

Radioactive isotopes are produced in the atomic pile, or more correctly, the nuclear reactor. A sample of an element placed in the reactor becomes transformed, usually to the radioactive form of the same element. For example, a piece of gold foil, the size of a postage stamp, if left for one week in the Oak Ridge nuclear reactor would then have the property of radioactivity equivalent to one thousand milligrams of radium and, of course, it is produced much more cheaply. Radioactive iodine, I-131, is a by-product of the manufacture of the plutonium for the atomic bomb. Other isotopes are produced in a similar manner.

From a radiation hazard standpoint, there are advantages and disadvantages to both materials, radium and radioactive isotopes, but the principles of radiation safety will apply equally in both cases.

It will *never* be and should never be the responsibility of any nurse to handle, distribute, or otherwise be immediately concerned with radioactive materials in the operating room. The responsibility for the care and handling of the material rests squarely on the shoulders of the radiologist and the radiation safety officer, if one is present. Any institution, large or small, which is employing radioactive isotopes in the operating room should and must have a radiation safety officer, a health physics department, and a general radioisotope committee. Finally, the material is used by the radiologist directly, or by a radiation-trained surgeon.

I cannot stress these points too much, since one of the largest differences between radium and radioactive isotopes is that any physician licensed to practice in this country is permitted to obtain, handle, and administer radium, essentially without additional training, although all diligent and competent physicians who use radium will have obtained training and experience with the material before using it by themselves.

STRICT CONTROL OF ISOTOPES

In the case of radioisotopes, however, the material is under very strict governmental control and can be used only by specifically licensed individuals who have demonstrated additional training in the handling and care of radioisotopes and clinical experience under a preceptorship arrangement.

The United States Atomic Energy Commission, as authorized by the Atomic Energy Act of Congress of 1954, has complete control of dispensing all radioactive isotopes in this country. This is indeed a sensible, sound, and fortunate situation. It means that a physician, to be able to obtain and to use radioactive isotopes in medicine, must take additional formal training beyond his radiological training, and this must be followed by a clinical preceptorship, in which he gains clinical experience with the material under the guidance of a qualified physician. The applicant then submits to the Atomic Energy Commission his credentials of per-

sonal qualifications, as well as a detailed outline of the institution and equipment with which he will work and all safety measures which he will exert in handling the material.

Because of the very tight, rigid control which results from these regulations, the radiation hazard attendant to the use of radioactive isotopes is far less than that of any other radioactive material or any other form of ionizing radiation, such as x-rays. This factor has been borne out in many studies over the last six to eight years, and the careful monitoring of workers in isotope situations, as compared with workers in other situations employing ionizing radiation, has confirmed the theoretical impression. What I have just said should not cause a false sense of security in the handling of this material.

Most operating-room nurses have had contact with radium procedures, either as graduate nurses or as students, and therefore know that radium is a solid and is usually in one of two forms—small capsules (about one-half to one inch long) or radium needles. Radioactive isotopes, on the other hand, may be in the form of a solid, but a great majority of them are in liquid form.

HAZARD IS INCREASED

We can thus immediately see a tremendously increased hazard from liquid isotopes as compared to solid radium. Dropping a glass bottle containing the liquid would cause it to splash and be scattered in many directions, with resultant widespread contamination. Many of the isotopes can be absorbed through the intact skin, and particularly through mucous membrane, and if vaporized may be inhaled and deposited in the bronchi. This characteristic alone is sufficient to cause isotopes to represent a much greater radiation hazard than solid radium.

On the other hand, radioactive isotopes are usually used in lower levels of activity and concentration than is radium, and the half-life of medically useful isotopes may be as short as the 2.7 days for gold. The majority of the materials, therefore, have a relatively short half-life as compared to the 1,600-year half-life of radium.

Also, radium ingested or taken into the body may be deposited very quickly and firmly in bone marrow, and in this position it continues to emit its radiation for the life of the individual, whereas most radioisotopes are not absorbed in significant amounts, and if absorbed can usually be eliminated chemically. Their rapid decay is an added safety factor.

Finally, in spite of the fact that radium has been with us for over 50 years, much more careful investigation has been done with relation to radioactive isotopes, their dangers, their physical characteristics, and their measurement, primarily as a result of the work of the Atomic Energy Commission and the program set up in 1944 with the Manhattan Project for the development of the atomic bomb. Consequently, there are many more established standards relative to isotopes than there are to radium. In addition, we now have available extremely sensitive radiation detection equipment which can detect minute quantities of radioisotopes. The entire program has been carefully worked out and is under very rigid control. Nothing is left to guesswork.

Radium is difficult to prepare in multiple forms, is certainly limited in availability and quantity, and is expensive to obtain. There are radioactive isotopes which can be prepared in a solid form and which have almost the same radiation characteristics of radium, but with a much greater added safety factor. It is my personal feeling that in the not too distant future, radium for the most part will be replaced by radioactive isotopes, such as Cobalt 60 or Iridium 192.

RADIATION SAFETY

As we said earlier, the prime responsibility with respect to radioactive material never rests with the operating-room nurse. It is the responsibility of the hospital's radiologist and radiation safety officer to set the standards and to control the handling and use of the material. The nurse should go to them for any information or instructions.

Certain principles of radiation safety hold regardless of the location or the type of material. These are: *distance, shielding,* and *time.*

Distance: It is obvious that the intensity of any form of radiation decreases as we travel away from it. This progressive decrease is on a most fortunate basis, in that going twice the distance from a source of radiation doesn't merely decrease the radiation by 50 percent, but rather cuts it to one-fourth of its original amount. This reduction involves the so-called inverse square law, which states that the intensity varies inversely with the square of the distance (see Figure 2).

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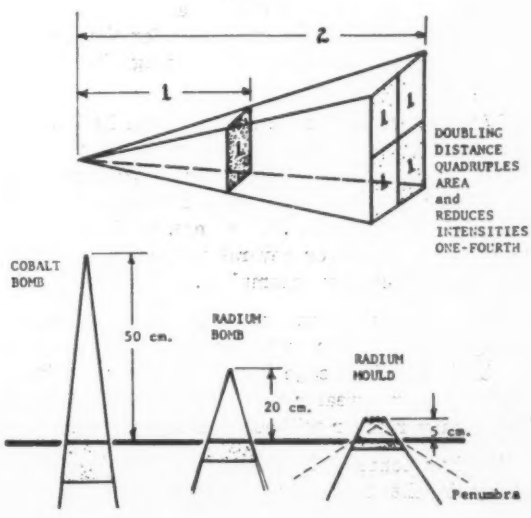
Figure 2



If we are three feet from a source of radiation and receive 100 units of radiation, then move to a point six feet from the source—that is, twice the distance—the decrease is the square of two equaling four; the intensity is one-fourth of the original amount, or 25 units of radiation.

If we move from three feet to nine feet away, the distance is increased three times. Since the square of three is nine, the intensity would be decreased to one-ninth of its previous amount. This is the same law which applies to the intensity of light. Thus we need go only a relatively short distance from an average source of radiation to reach a point at which the intensity has decreased to a safe level. The principle, therefore, is to put as much distance as possible between individuals and the source of radiation.

Shielding: Almost everyone knows that lead will for the most part hold back x-rays. This is true for all sources of radiation within practical means. It is surprising how little lead is required to reduce radiation to a safe value. The actual type of shielding or barrier required depends on two factors: the intensity of the radiation—that is, how much radioactive material we have—and the type of radiation given off by the particular material.

There are two types of rays which we may generally consider—beta rays and gamma rays. The beta rays travel only a short distance, measurable in inches or fractions thereof. Gamma rays are much more penetrating and will travel longer distances. Beta rays are stopped by thinner and lighter metals than lead; gamma rays usually require a certain amount of lead for safe shielding.

Time: On the basis of the premise that the biological change produced by radiation is accumulative in the living organism, we can readily see that the longer one is exposed to a source of radiation, the greater the total dose received and thus the greater biological change which may occur. Therefore, we should strive to allow ourselves to be exposed to sources of radiation for the shortest possible time consistent with doing the job at hand.

We must remember also that within limits, part of the radiation *effect* occurring in our bodies today is maintained until tomorrow, when we may receive an additional dose of radiation and its resultant biological effect. Therefore, at the end of a week or a month or several months a biological radiation effect may accumulate.

Since normal tissue recovers from biological changes at a given rate, an effort is made to establish a safe dosage based upon our receiving radiation at no greater rate than that at which our bodies may recover without harmful effects.

Another concept in the problem of radiation safety is the subject of "maximum permissible dose," or MPD—the total amount of irradiation that an individual may receive continuously without damage to the blood or reproductive organs. So far as we know at this time, the maximum permissible dose will result in no significant genetic changes, but in fairness we must note that the entire problem of genetic effect from radiation in human beings has not been fully determined. It may be many years before sufficient data can be accumulated to evaluate this entirely. There is no practical manner in which genetic changes can be accelerated for purposes of research study, and our only recourse is to wait the necessary number of years.

The concept of the maximum permissible dose was originated by a group of individuals, representing the best knowledge of radiation physics and radiobiology, who determined that so far as they could find, this amount of radiation has not produced human damage. It has *never* produced sterility, and there has been no evidence of genetic change.

To arrive at the amount, these persons carefully measured the dose received by individuals working in x-ray departments for a long period of time, in which no one had ever shown any ill effects from exposure to radiation. The MPD was then set far below this level. It represents the amount of radiation a person exposed consistently, such as a radiologist, may receive every day of his life.

Nurses, who receive only occasional amounts, have an added safety factor. Also, this maximum permissible dose refers to total body irradiation, and usually exposure to radiation is limited to one or more portions of the body.

The existence of this maximum permissible dose does *not* mean that radiation should not be kept at the lowest possible level, because this is certainly the aim of every radioisotope department, but, on the other hand, work below the established levels should not cause concern to those involved.

Here are specific radiation-safety precautions for nurses:

Do not allow radioactive material to come in contact with your body, unless you are the patient, since most of the liquid forms of radioisotopes can be absorbed through the intact skin and mucous membrane.

Always use rubber gloves when handling the material or whenever there is the possibility of contact with it.

Avoid all forms of radiation when pregnant. Again, this rule applies to occupational exposure and *not* exposure which is medically indicated.

Depend upon the radiologist to take the responsibility for handling and directing the material, and follow his instructions closely. In sterile technic, if you break sterility, you can get another pack from the closet, but if you break technic in radiation you may not have a second chance!

USES OF RADIUM

The uses of radium in the operating room may be divided into two large categories, those dealing with cervical cancer and those dealing with cancer of the body of the uterus.

Cervical cancer: Various forms of radium applicators, consisting of metal holders for radium capsules, are used to place the sources of radium within and around the cervix. One of the more common, used in many Philadelphia institutions, is the Ernst applicator. In most instances, the applicator is kept folded within a lead container or well and not exposed to the personnel in the operating room until it is lifted from the container and placed within the patient. This step takes a very short time, and all studies have indicated that the usual procedure is satisfactory.

The other situation with respect to cervical carcinoma involves the implantation of radium needles in the parametrium or around the cervical os. This specialized insertion is used relatively infrequently in most institutions. The principles of handling and safety during this procedure should be outlined at the time by the operating surgeon.

In cases of uterine carcinoma or carcinoma of the body of the uterus, radium capsules are inserted singly or in tandem. An instrument known as the Heyman applicator makes this insertion relatively easy. Again, the radium capsules should be kept enclosed in a lead container until their actual insertion. Once they are in place, the body of the patient acts as a filter for the radiation.

There are many other miscellaneous procedures utilizing radium and its products which may or may not be performed in the operating room. These include implantation of low-intensity radium needles in lesions about the mouth and implantation of radon seeds in many locations. These two procedures in our institution are handled in the radiation therapy department rather than the operating room.

Finally, with regard to the handling of radium, there is the question of who is the operator at the time. Is it the gynecologist, the surgeon, or the radiologist? This has been a problem for many years. In our institution the radiologist assumes all responsibility and does all of the actual insertion of radium in all cases of cervical and uterine carcinoma, as well as the oral implants and radon-seed application. This arrangement is most satisfactory. From the standpoint of the radiologist, it is the ideal arrangement, although many gynecologists prefer to insert their own radium under the guidance of the radiologist.

I think that probably the best way to describe the endeavor would be to say that it should be a team effort. The radiation aspect of the material should be closely controlled and handled by the radiologist. The gynecologic aspect may rightly be controlled by the gynecologist, but if a single individual must handle the entire procedure, we think that this can best be done to the advantage of the patient and to the operating room personnel by the radiologist or the radiation therapist.

As to specific precautions, we warn again: Never touch the capsules with your hands, even though you are wearing rubber gloves—use forceps. If a capsule of radium should be lost, notify the radiologist immediately. In addition, you should establish an immediate quarantine on the operating room and laundry. Nothing should leave the room, and an immediate search must be made by detection instruments.

Figure 3

At left: Radium loading bench protects technician loading radium capsules.

At right: Radium carrier in closed position.

In my opinion, there should never be a need for storing any amount of radioactive material in the operating room as a routine procedure. It may be stored there prior to its immediate use, but the operating room is not the place for permanent or semipermanent storage of such material. The material—particularly radium—should be brought to the operating room in a lead-lined carrier and handled with special instruments.

USES OF RADIOISOTOPES

The various uses of radioactive isotopes in the operating room may be grouped into interstitial uses, implants, and miscellaneous uses.

The interstitial group concerns primarily the insertion of liquid radioactive gold by intra-tumor needle injection. The gold is inserted into cancerous areas so that it is spread throughout the surrounding tissue and exerts its radiation on the tumor and its bed. Such injections are used primarily in tumors at the base of the bladder, or in prostatic carcinoma. Occasionally they are made into the parametrium, surrounding cervical carcinoma with extension. Actually many tumors

(Continued on next page)

may be so injected, and the various procedures described in the radiological literature are done in many instances by urologists, gynecologists, and, of course, radiologists (see Figure 4).

The prime consideration in this matter is that the radiation exposure is mainly to the actual surgical operator, because the injection must be made through a surgical wound. The injection itself is made with a lead-shielded syringe. The radioactive material may be placed in a syringe in the radioisotope laboratory, or the material may be brought to the operating room in a vial surrounded by lead, and the required amount aspirated into the lead-protected syringe when the operative site is ready.

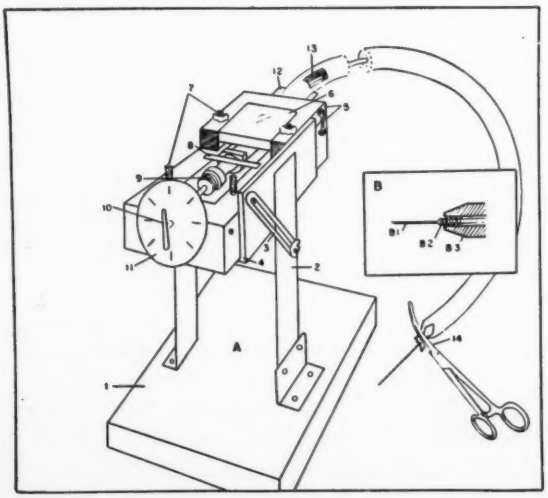
The only additional precaution to be considered is that again we are dealing with liquid radioactive material and spillage must be avoided.

Another interstitial situation arises in work being done with silver-coated radioactive gold inserted through a bronchoscope into a bronchogenic carcinoma. The handling is similar to that just described.

Implants are solid forms of radioactive isotopes which are inserted into tumors or surrounding tissue. They may be left in place permanently or may be of the removable type which is taken out after the time necessary for adequate dosage. Examples of substances implanted are Cobalt-60 needles, which are placed in the parametrium and in the tumors themselves, and Cobalt-60 seeds—small pieces of Cobalt-60 placed in a nylon thread, spaced approximately one centimeter apart. The thread is sewn into tumorous tissue such as the base of the bladder.

Almost all workers who are using this technic have followed the procedure of storing the nylon thread containing the radioactive material in a lead container. The first two or three feet of the thread is empty of radioactive material. The container with the thread is placed close to the patient, and at the proper time the end of the thread is taken out of the container and the blank thread is sewn into place. The location and appearance are checked to see that they are satisfactory. At the last minute the thread containing the radioactive material is pulled through the area and into place. This results in relatively little radiation to surrounding personnel.

Figure 4. Equipment for intra-tumor injection of radioactive gold.



Other forms of implants are made with solid seeds of radioactive gold which are implanted permanently in the prostate and other tumor masses. These are inserted by means of a "gold seed gun," which holds 16 seeds in a protected chamber and fires them into the tissue with rather good accuracy and certainly with a minimum of radiation either to the operator or surrounding personnel.

Another interesting form of implant which is being used in a few locations is made by inserting hollow tubing into a tumorous area. The tubing is then filled with mercury, which is opaque to x-rays, and a portable x-ray film in the operating room will show how well or how poorly the implant is made. If it is poor, correction can be made, and when a satisfactory insertion of the tubing results the mercury is pumped out and radioactive material is pumped in. This irradiates the area quite satisfactorily. At the end of the period of irradiation the fluid is withdrawn and the tubing is removed. The amount of radiation to surrounding personnel under these circumstances is minimal.

There are numerous other forms of implants, all of which are related to the problem of inserting material such as Tantalum-182 wire through bladder tumors. The basic radiation-protection problems are similar with all of these technics, in that the material is kept enclosed within lead barriers until the moment of usage.

The miscellaneous radioisotope uses include insertion of a source of solid Cobalt-60 within a balloon which has been inserted and inflated within the bladder. This procedure keeps the bladder distended and at an even distance from the source of radiation, and a very satisfactory therapeutic dose can be administered. No significant hazards are presented under proper conditions. In a similar manner a balloon within the bladder may be filled with radioactive liquid. Materials such as radioactive sodium and radioactive bromine have been used. These present a slightly greater hazard because we are again dealing with liquid material, but the precautions previously noted still hold (see Figure 5, page 119).

Finally, there are several procedures which may in some institutions be performed in the operating room or with the assistance of operating-room personnel, although in most instances they are done in the radiation laboratory or within the radiation department. I am thinking specifically of the use

(Continued on page 119)

Above (l. to r.): Theresa I. Lynch, Ph.D., dean, School of Nursing, University of Pennsylvania School of Medicine, Philadelphia, and consultant to the American College of Surgeons on its programs for nurses; H. Prather Saunders, M.D., associate director, ACS, Chicago; Alice Keefe, R.N., associate professor of nursing, St. John's University, Brooklyn, and member, nurses' advisory planning and arrangements committee; and Ethel Jordan, R.N., professor of nursing, Skidmore College, department of nursing, and chairman, nurses' advisory planning and arrangements committee.

Cancer, Cardiac Surgery Subjects At ACS Nurses' Sessions

Surgical nurses' sessions at the recent sectional meeting of the American College of Surgeons in New York City drew a total attendance of 1,883—1,608 graduate nurses and 275 students. Abstracts of selected papers follow. Material from the session on recovery and postanesthesia units will appear in the May issue.

Psychological Resources for Surgical Patients Subject of Symposium

Nurse Herself a Resource; Must Find Relief for Her Own Feelings

The nurse is herself a psychological resource to the patient. A nurse, however, may have conceptions about illness and reactions to illness as well as other fears and anxieties which interfere with her relationship with the patient. She may identify with the patient and activate in herself dormant feelings of rejection, frustration, or guilt. To escape coping with her own feelings, she may withdraw and not be available to the patient.

Nurses feel that they must transmit to all an impression of self-sufficiency, strength, and imperviousness to feelings. This is not easy to do indefinitely, and nurses can find relief and lessen the emotional charge by sharing feelings with others in the same circumstances.—**Morton Bard, Ph.D.,** associate clinical psychologist, Memorial Center for Cancer and Allied Diseases, New York City.

Sympathy with Philosophy of Treatment Needed for Good Patient Relationship

The nurse can only be successful in her relationship to the patient if she is sympathetic with the philosophy of the patient's treatment. Her personal reactions to treatment can be communicated to the patient because she is closest to him in providing support, comfort, and interpretation.

Preparation for surgery begins in preoperative days. The physician decides how much the patient will be told of his surgery, but the nurse explains the procedure in a manner which can be helpful for the patient. The patient's first concern is usually for job security and family worries. He fears the disease, and alteration in appearance and possible limitation in activity.

Emotional crippling can lay waste to a classical program of rehabilitation. Prevention depends on making the patient independent as soon as possible and creating in him a feeling of general acceptance.

Genuine sympathy between the nurse and the patient is important. The patient may have more faith in the nurse's reassurance because he feels that a woman is better able to understand than a man.

The family also needs reassurance and help. One example of good family preparation is ex-

(Continued on next page)

Edna Prickett, R.N. (l.), and Edna Tuffley, R.N. (r.), are both members of the nurses' advisory planning and arrangements committee. With them is Robert E. Peyton, M.D., executive assistant, administrative staff, ACS. Miss Prickett, formerly on the staff of the National League for Nursing, is now with the American Sterilizer Co., Erie, Pa. Miss Tuffley is department head, operating room nursing, New York Hospital-Cornell Medical Center, New York City.

plaining "how the patient will look" on the first postoperative day. Transition from hospital to home is made easier if the family is well oriented to the disease and its treatment.—**Margaret Gibson, R.N.,** assistant director, department of nursing, outpatient department, Memorial Center for Cancer and Allied Diseases, New York City.

Nurse Tends to React to Patients According to Severity of Illness

Because of the pressure of circumstances, the responsibility for psychological care may pass from the doctor to the nurse. Nurses tend to react to patients in relation to the severity of their illness. Witness the priority in care given the patient scheduled for radical surgery, when indeed the psychological needs of the patient scheduled for minor surgery may be greater.

Fears are difficult to express. The outwardly calm patient may be immobilized with anxiety. An alert nurse will sense anxiety in her patient and lead him into airing his feelings and expressing his fears and misconceptions.—**Esta Carini, R.N.,** department head, Psychiatric Division of St. Vincent's Hospital, New York City.

Anxiety About Illness Blamed on Wrong Cultural Attitude Toward Death

Anxiety about illness comes from an indirect repressed anxiety about death. There is something wrong in our culture's attitude toward death. We try to cover up and repress the idea of death as if it did not exist. We have no training to meet death—no resources to call on.

Death is the only absolute change every individual will have to confront. The more we can learn to confront death, the less likely we are to be prey to neurotic anxiety about sickness or dying. We would then be better equipped to confront the real anxieties of illness or surgery.

Nurses who are able to confront death constructively can be a great help to other people, particularly in moments of crisis. A "steadfast human presence" is the greatest psychological contribution the nurse can make to the patient.

Nurses try to camouflage their feelings too much. The patient will sense what the nurse feels as quickly as what she says or does, and his anxiety may be increased. Nurses should be as honest as possible with their own feelings. Everyone has a threshold beyond which he cannot "take" any more anxiety. There is no disgrace or loss of face in expressing honest reactions to death or tension.—**Rollo May, Ph.D.,** psychoanalyst; fellow and faculty member, William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology, New York City.

Discuss Various Phases of Nursing Child Who Has Cardiac Surgery

OPD Staff Has Opportunity to Get Patient's Background, Explain Treatment to Parents

The outpatient experience of the patient may be an opportunity for the nurses and staff to explore the entire family, social, economic, and psychological patterns, as well as the disease picture.

The family of the child with a congenital cardiac defect needs long and patient counseling. Often these parents have an intense fear of death for their child, and to avoid the child's attacks of respiratory distress or the like, they will avoid necessary disciplining. A spoiled and irritable child is often the result.

In their attempt to reject the fear of losing the child, parents may deny the possibility of anything being wrong. They may feel an unexpressed guilt because they relate the child's disability with punishment for something in their own pasts. All these emotions can be detected and merit careful treatment.

The outpatient department nurse can explain the importance of diagnostic tests, regular clinic visits, good nutrition, and avoiding infections. Diagnostic tests should be explained in analogies or terms common to every-day life, so that they can be easily grasped by the parents. For example, an EKG can be described as a telegram from the heart which sends information on what the heart is doing. The nurse can interpret the doctor's feelings, and clear up many misconceptions.

The mother and child are introduced to clinic personnel to make co-operation by the mother a more personal thing. The facilities of the social service department are used to explore financial and marital difficulties. The public health nurse is called upon to supervise the home situation—to help the parents accept the child with a congenital defect and give it a normal start in life.

In the course of regular clinic visits, good health and nutrition are maintained in the child, and a healthy acceptance of the situation is induced in the parents. Sometime before hospi-

tal admission, the child and parents are taken to visit the wards, and fear of hospitalization is thus minimized.—**Mary Connellan, R.N.,** staff nurse, outpatient department, St. Vincent's Hospital, New York City.

Familiarizing Child with Procedures Will Make Him Feel More Secure

Even if the child has no capacity to understand his disease, the attention directed to his heart can create a cognizance of something wrong. Developing in the child a sense of familiarity with procedures can make for a more secure child. The specific preparation necessarily depends on the child's age.

Because an overwhelming display of reassurance can create confusion, orientation must be apparently casual. Before some of the procedures involving the use of multiple needle punctures, the child can be given a nurse's kit and doll and allowed to duplicate the nurse's maneuvers. Restraints can be explained as a help for the doctor, not a form of punishment.

Pain cannot be denied. The child should be urged to speak or cry out when pain is experienced. After any procedure, the child should be praised in front of the doctor and personnel. Equipment, such as intravenous, transfusion, oxygen, and other equipment, is exposed for the child to see, handle, question and explore. With familiarity come security and reduction of fear.

It is particularly important to explain that anesthesia administered for a diagnostic procedure is unrelated to the actual proposed surgery.—**Myrna Dolan,** student nurse, St. Vincent's Hospital, New York City.

Child Takes Favorite Toy to Surgery; O.R.S. Gets Surgeon's Orders, Tells Team

Preoperative orders are organized to minimize frustration and disruption of routine for the child. The circulating nurse (who has met the child on the wards before surgery) and the operating-room nurse receive the patient together as he arrives in the operating room in his own crib accompanied by some familiar and beloved toy or doll. As the circulating nurse transfers the patient to the operating table, he recognizes a familiar face.

Throughout the induction of anesthesia, the child is allowed the companionship of his doll. Operating-room personnel should remember that hearing is the last faculty surrendered in anesthesia and watch to keep conversation and frightening noise to a minimum.

Integrated activity is vital in cardiac surgery and can only be achieved when all members of the team have been oriented to specific duties. The operating-room supervisor provides the lead here by corralling the surgeon for specific instructions or changes of routine and then passing on the information to all personnel figuring in the procedure.—**Marguerite Lowell, R.N.,** operating-room supervisor, St. Vincent's Hospital, New York City.

Private Room Advised for First 24 Hours; Basic Nursing Care Imperative

Overstimulation from noise and ward activities causes exertion and tension at the site of surgery. Hence, it is wise to put the postoperative cardiac patient in a private room for the first 24 hours of intensive nursing care.

The most basic of classical nursing functions are imperative—gentle turning, posturing to prevent traction and deformity, encouragement of deep breathing, meticulous skin and mouth care. Vital signs are watched with concentration; sensitive changes are analyzed in the possible spectrum of cardiac arrest, pneumothorax, or laryngeal edema.

The patient is reassured by short visits from favorite playmates during the immediate postoperative period. Parents are available at all times, but not necessarily in the room with the patient.

After the first period of postoperative care, a positive approach is adopted in care of the child, so that in time he recognizes himself as kin to any other child on the pediatric service. When discharged from the hospital, the child returns to the parents with an attitude and behavior pattern which have not been disturbed.—**Evelyn Murphy, R.N.,** assistant clinical instructor, pediatric service, St. Vincent's Hospital, New York City.

(Continued on page 118)

Demonstration of use of the Foster frame was part of a three-act drama depicting nursing care in total rehabilitation of a patient with a broken neck. Drama was written and produced by members of the nursing staff of the Neurological Institute, Columbia-Presbyterian Medical Center, New York City.

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In areas which have local AORN groups, the $1 annual fee is collected from all members by the local group and forwarded to the national headquarters. Will all local groups which have not collected their national dues please send them by May 1.

Individual members (in areas in which there are no AORN groups) are asked to send the $1 fee directly to the Association of Operating Room Nurses, 305 W. 18th St., New York 11, N. Y.

The national office would like to have on file a copy of the bylaws for each local group. Will any group which has not submitted a copy please mail it as soon as possible?

Edith Dee Hall, R.N.
Executive Secretary

Oregon O.R. Nurses Hold April Institute

An institute for operating room nurses, sponsored by the O.R. conference group of the Oregon Nurses' Association, will be held from 1-5 p.m. on April 21 and 22 at the University of Portland College of Nursing, Portland.

Speakers will include Mr. John Stallworthy, United Oxford Hospital, England, "Gynecological Surgery"; Prof. Frederic H. Bentley, University of Durham Medical School, England, "The Role of the Operating Room Nurse During Disaster"; James Swindells, Portland, attorney, Oregon Association of Hospitals, "The Operating Room Nurse and the Law"; and Dan N. Steffanoff, M.D., Portland, "The Use of Hypnotism in Today's Medical Practice."

All nurses are invited to attend. Admission is free to members of the American Nurses' Association and to students. Registration fee for non-ANA members is $1.

Rose Marie Belli, R.N., who recently retired as operating room supervisor, St. Luke's Hospital, San Francisco, after 34 years of service, was honored at a surprise banquet at the Hunters Point Naval Officers' Club. She received a bronze plaque and a color television set. Shown with her here at presentation are Albert Davis, M.D. (center), chief of plastic and reconstructive surgery, St. Luke's Hospital, and Charles E. Bates, M.D., retired chief of surgery at the hospital, who was master of ceremonies. More than 450 of Miss Belli's friends attended the dinner, which was planned by Helen Tennant, R.N.

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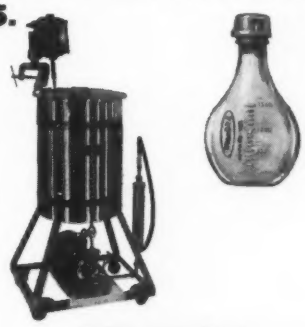

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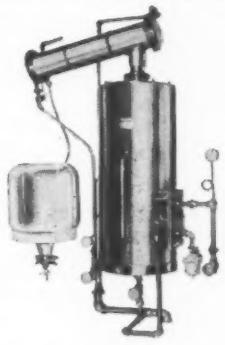

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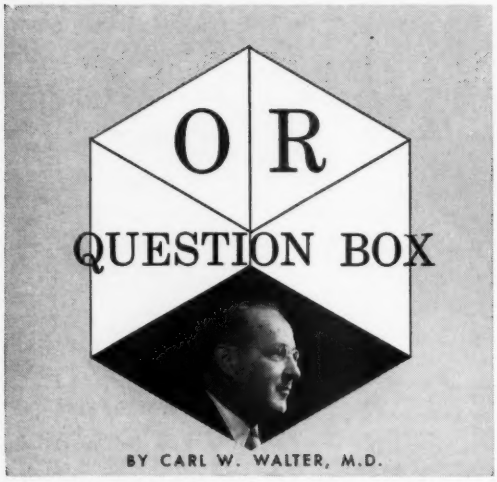

Assisted by Dorothy W. Errera, R.N.

Q. In our central sterile supply, we rotate our sterile goods, using a first-in, first-out routine. We do not have any difficulty with ordinary trays which are used often. However, some of our trays are used infrequently. These special trays are wrapped in four layers of muslin and are stored on open shelves. We are wondering if you have a standard on time limits between sterilizing. What do you think of resterilizing each month and using one wrapper of double layers of muslin?

A. Supplies wrapped in a double-thickness muslin wrapper so that all surfaces are covered with four thicknesses of muslin can be stored indefinitely in a clean, dry, dust-free, vermin-free environment. The first-in, first-out routine usually keeps inventory current, so that there is no problem of long-term storage, but when the latter does occur, an additional wrapper of Kraft paper or plastic can be put over the sterilized tray to protect the package from deleterious influences. The extra wrapping may seem a chore, but it is less expensive than resterilizing.

Q. Is it ever possible to have dirty steam? Commercial laboratory reports show the steam to be pure, but our instruments come out of the sterilizer oily and pitted.

A. It is difficult to get dirty steam because in the process of steam formation itself, the gurry and debris of dirty water are left behind in the boiler. If the steam is coming from a power plant, where the process steam first passes through a turbine, there may be oil present. This is very unlikely, however, because exhaust steam is used for such purposes as heating water. If an electrically heated steam generator is used, it is possible that impurities such as alkali earth salts are accumulated in the generator and carried through with the steam.

Q. Is there any objection to including a metal basin in a laparotomy kit?

A. A basin can be included provided it is positioned so that it will always spill air in the sterilizer.

Q. Is there any objection to a laparotomy pack larger than that described in Aseptic Treatment of Wounds?

A. This pack is the largest which we know can be safely and surely penetrated and sterilized in 30 minutes at 250° F. If you feel you need anything larger, you must rearrange the contents so that penetration will be quicker. To be absolutely certain of penetration, you should place a thermocouple in the center of a sample pack and actually measure the time necessary for the center of the pack to come to sterilizing temperature.

Q. Is there any danger in use of the O.R. sterilizer by the bacteriologist for his cultures?

A. There is no hazard once the material is in the sterilizer, but there is considerable hazard involved in bringing the material to the operating room and contaminating the area with slipshod technics of culture handling. Also, dirty clothes and shoes are indigenous to most hospital laboratories, and personnel from these areas should be barred from the O.R. unless clothing and shoes are changed.

Q. If you put a cc. of water in the bottom of a jar with sutures or sponges, is that enough so that the jar can be sterilized standing upright?

A. Enough moisture must be provided so that as the vessel is heated, the water will be turned to steam and will purge the air from the jar. One cc. water will turn to 865 cc. of steam and purge the air from an empty 500-cc. jar.

When textiles are included, additional moisture must be added to moisten the textile. It is safer, therefore, to position hollow vessels in the sterilizer so that air can spill out freely and steam can fill the entire contents quickly and surely.

Q. We are using 35 percent isopropyl alcohol for disinfecting various instruments. Is this all right?

A. Thirty-five percent isopropyl alcohol is too weak to be effective. For routine disinfection of instruments which have not been contaminated with blood or tissue fluid, 50 percent is adequate. When the tubercle bacillus is a likely contaminant, the concentration should be boosted to 70 percent.

Q. Are the sterilizer gauges important for determining whether your goods are being sterilized?

A. Gauges tell you whether the steam in the sterilizer is in a microbicidal range. If the pressure reading and the temperature reading in the exhaust line coincide, you are assured that microbicidal steam is present. Neither of these can assure proper penetration of the steam to all parts of the sterilizer load. Sterilization depends on a knowledge of the elements of proper packaging and proper loading, coupled with a knowledge of the proper operation of a sterilizer.

Q. How are interstitial radium needles sterilized?

A. They can be sterilized in steam and should be terminally sterilized promptly after removal.

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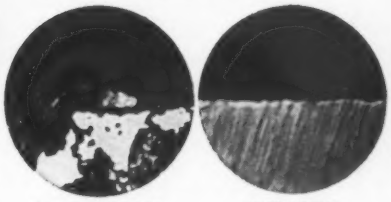

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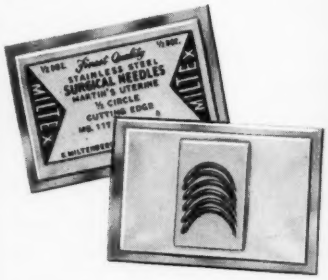

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(Continued from page 113)

Public Health Nurse Can Help Avoid 'Emotional Crippling' of Child

The emotional crippling of a child following a period of oversolicitousness and overprotectiveness can be more destructive than the original disability. The public health nurse can be a big factor in averting this unfortunate development by being the common link in communications between all the agencies and personnel caring for the patient and the family.

She will have already made a significant impression on the family by supporting it through the days of diagnosis and surgery. In the postoperative period, she can encourage the family to keep up medical care, help with family problems as they relate to the child, and explain and interpret normal growth patterns to parents so that they can help the child develop within the limits of his disease.

She never makes a decision for the parents but is always available to provide guidance and direction to their thinking and reactions. — **Natalie Marks, R.N.,** public health co-ordinator, St. Vincent's Hospital, New York City.

Speculates About Changes in Surgery; Sees Less Surgery for Ulcers, Cancer

Nurses Urged To Take Advantage Of Opportunities for Learning

The surgery being explored in the experimental laboratories today is the operating-room surgery of tomorrow. As the surgeons observe and learn, so should the nurses. In almost every large community there are hospitals in which facilities to observe are available to any nurse, and she should take advantage of the opportunity.

Speculating on surgery of the future, we may anticipate that there will be less surgery for ulcers, and also for cancer, as drugs are developed which have a selective action for cancer cells alone. Surgery for coronary disease may disappear as preventive and curative measures are explored more. Surgery for gallstones and kidney stones may disappear when means to prevent and/or dissolve these stones are available.

Brain surgery may reach dynamic proportions of changing a man's total personality. "Spare parts banks" may become common to hospitals as more is learned of the body's defense mechanism of rejecting foreign organs.

Nurses are urged to exercise their prerogatives in the surgical arena, not with threats to the surgeon of invoking administrative discipline, but with simple and straightforward appeals for concern with patient safety and recovery.—**Elliott S. Hurwitt, M.D.,** chief of surgery, Montefiore Hospital, New York City.

(Continued from page 110)

of radioactive gold as an intracavitary injection into the chest or abdomen. This is an excellent palliative procedure to reduce fluid formation in patients who have extensive metastatic malignancy in the abdomen or chest. The procedure is carried out entirely by the radiotherapist, and a well-organized program of protection has been set up over the years that this has been in use. A supervisor encountering this as an operating-room procedure should discuss it fully with the radiologist before proceeding.

There are a few diagnostic studies which in our institution are done quite frequently in the operating room. They present essentially no hazard to any surrounding personnel because of the low dosage and low-intensity material used in any diagnostic study. I am thinking primarily of blood-volume determinations, using radioactive iodinated serum albumin. We perform these quite frequently, almost on a daily basis, as an emergency operating-room procedure on patients undergoing extensive cardiac surgery who present huge blood loss and replacement problems.

SUMMARY

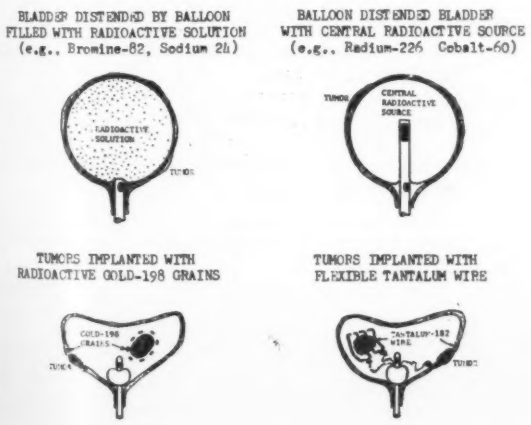
All operating room nurses should first be aware of the widespread public-relations problem concerning the hazards of x-rays and all forms of radiation and the fact that it is their job as much as that of the radiologist and everyone else concerned with medicine to dispel the concern of patients and the lay public about radiation hazards. We must prevent the possibility that some patient may lose his life prematurely because he was afraid to have an x-ray taken.

The radiologist, radiophysicist, and radiation safety officer are specifically trained to handle radioactive material, to institute an educational program for both graduate and student nurses, and to maintain a well-integrated program of radiation-safety throughout the institution. They will appreciate the nurses' co-operation and interest.

The use of radioactive materials in the modern hospital should carry no dangers to any of the medical personnel when proper precautions are taken and a good surgical and radiological regime is followed.

Figure 5

EXAMPLES OF
RADIOACTIVE ISOTOPES
IN THE BLADDER



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By Dorothy W. Errera, R.N.

Suggestions will be welcomed for subjects to be covered in future issues.—The EDITORS.

Thompson, Thomas M.: "X-Ray Visualization of Surgical Sponges." *Surgery* 37:455, March, 1955.

Occasional difficulty has been reported in producing x-rays which satisfactorily reveal sponges with detectable telltales. In the author's experience, failure is very unlikely whether using a conventional x-ray machine and the Potter-Bucky diaphragm or portable equipment with stationary grids.

Best results are obtained using the former combination, but satisfactory readings can be obtained with the portable machine if the highest available kilovoltages for stationary grids are used.

Uncontrollable respiratory motion in the anesthetized patient makes location of sponges in the thorax difficult. When a negative reading is obtained in a questionable situation, a final check should be made using conventional equipment when the patient is recovered enough to co-operate by holding his breath.

Deaton, W. Ralph, Jr., and Clutts, George Robert: "Use of Negative Pressure As Means of Draining Extensive Wounds." *American Surgeon* 23:278, March, 1957.

Collections of serum and clots in the postoperative wound result in infection and edema, both of which cause the patient considerable discomfort. Previous methods of control included the use of multiple Penrose drains and various suturing technics with pressure dressings. None of these was in any sense 100 percent effective.

A new technic of postoperative drainage using a catheter sealed in the wound has been tried on several types of extensive wounds with good results. Two #20 French catheters with multiple perforations are left in the wound, one in the superior margin and one in the inferior. The wound is closed air-tight or sealed with Vaseline gauze to prevent leakage. Mild suction is applied with either a mechanical unit or a simple gravity unit. Wounds have been found to heal in 48 to 72 hours with practically no serum formation, a minimum of marginal necrosis, and increased comfort for the patient.

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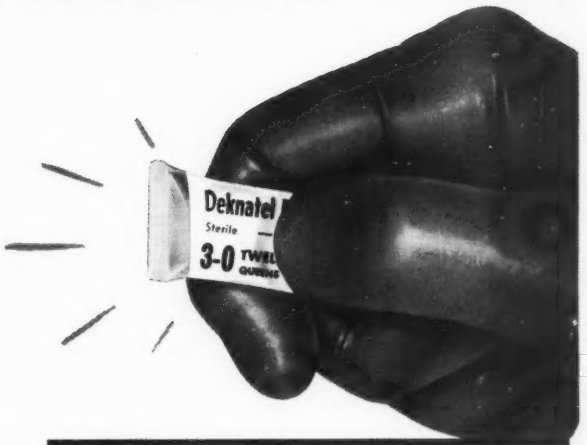

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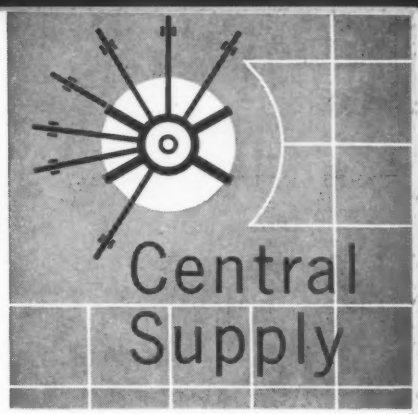
Disposable Units Less Expensive, Safer, Hospital Study Shows



A comparative cost study at the D. C. General Hospital

*The following comparative cost study of reusable and disposable needles and syringes was made at the District of Columbia General Hospital, Washington, D. C., as a part of a comprehensive report on the health and hospital programs of the community.**

It should be noted that the present cost of using reusable needles and syringes at the D. C. General Hospital is somewhat higher than the cost which is probably typical of general hospitals. This would be due in part to the large percentage of sterilized needles and syringes which are not actually used in injections. Also contributing to the high cost are inadequacies in space, space utilization, and equipment.

Because of the growing importance of the development of prepared sterile supply items, HOSPITAL TOPICS will attempt to obtain and publish further studies in this area.—THE EDITORS.

• One of the critical functions of the central sterile supply department is the preparation and use of sterile needles and syringes. The use of injections has increased manyfold over the past 20 years. Today, there are few patients who do not, during their hospital stay, either receive injections or have blood withdrawn by use of a sterile needle and syringe.

With the expanded use of all sterile items, the demands on central sterile supply are such that the work loads often exceed the department's production capacity. With increased volume, the problems in maintaining an adequate standard of sterility are obviously multiplied.

The maintenance of sterility after needles and syringes are delivered to the nursing floor also is a major problem. Moreover, with tremendous nurse shortages throughout the country, constant research on reducing the time required to perform nursing tasks is a must.

At D.C. General Hospital the volume of sterilization has increased to the point that either the work load must be reduced or sterile supply units must be enlarged. A study was made of the use of disposable needles and syringes as a possible means of reducing this work load.

METHODS

A large quantity of disposable needles and syringes for this study was obtained from Pharmaseal Laboratories.** These needles and syringes consisted of a single unit of plastic syringe and attached needle wrapped in a cellophane airtight package. The entire unit was completely sterile, as determined by laboratory tests.

The combination needle and syringe was tested under controlled conditions and compared, both for effectiveness and cost, with the present system involving reusable needles and syringes.

This study was approached in three ways:

•Analysis of nursing time and effort of the two systems.

•Detailed cost studies of all elements of expense involved in the two systems, including nursing time.

•Evaluation of attitudes and medical opinion as to the advantages and disadvantages of the two systems.

The study was accomplished largely through the co-operative efforts of the nursing service, the accounting office, and the medical staff.

The two methods studied may be described as follows:

1. Present method — reusable needles and syringes:

In the present procedure, there is not a single central supply; there are several separate units operated by the various services—medicine, surgery, and obstetrics. Syringes and needles are sent in packets several times a day from the central sterile supply units to the various services.

The procedure developed as a standard by the nursing service was devised to assure maximum protection of the patient against infection. It is, however, time-consuming. With the limited number of supervisors available, there is a tendency for individual nurses to develop quicker, though less safe methods of preparation. It was found that the standard was seldom followed and that a "short-

(Continued on next page)

*Survey of Municipal Hospital Facilities of the District of Columbia, by Isadore and Zachary Rosenfield, architects and hospital consultants, and by John G. Steinle and Associates, management consultants to institutions.

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cut" method was consistently used, as is evident in the chart headed "Recommended and Actual Procedure."

The actual method used was much more rapid than the recommended procedure. The maintenance of sterile technic, however, may be somewhat open to question.

One very interesting side development from this study was the discovery that there was a substantial difference between the number of syringes sent from central sterile supply and the number of actual injections. Only 54.2 percent of the sterile needles and syringes were actually used. A large proportion of the remaining were contaminated in handling, A number were defective—the needle was bent or dull.

2. Expendable needles and syringes:

The nurses themselves quickly developed an effective procedure for the use of expendable needles and syringes. The needles and syringes were attached and packed in cellophane packets. The following simple and safe method was quickly developed for use of these single-unit attached needles and syringes.

Injection Procedure
Disposable Syringes and Needle

Remove medication card from file

Collect tray with:

Container of 2x2 sponges in alcohol
Waste basin
Vials of medication
Proper syringe packets.

Preparation:

1. Wash hands
2. Place requisition cards on tray with container of sponges
3. Clean off tops of vials
4. Remove syringe, needle, and needle cover from packet
5. Twist plunger into barrel; then put syringe on medication card

Recommended and Actual Procedure

RECOMMENDED METHOD	ACTUAL METHOD
Remove medication card from file	Remove card from file
Collect tray:	Collect tray:
Sterile towel	None
Basin for waste	Basin
2x2 alcohol sponges in container	2x2 sponges in basin (not in container)
Sterile lifting forceps	(Forceps used by most nurses)
Preparation:	Preparation:
Wash hands	Same
Open towel, place on tray, fanfolded	Omitted
Cleanse vial with alcohol sponge	Same
Remove syringe with forceps	Most use forceps
Place 18G needle on syringe with forceps	20G needle attached to syringe
Insert air and withdraw medication	Same
Detach syringe from needle	Omitted
Attach 20G needle, then put inside towel	Omitted
Place medication card under syringe	Same
Place 2 2x2 sponges on tray	Syringe and needle encased in 2x2 sponge
Carry tray to bedside	Same
Wash hands between patients	Not done
Clean up	Same
Chart on Kardex	Same

6. Remove needle cover

7. Insert air; then withdraw medication from vial

8. Replace needle cover and place on medication card on tray

9. Carry tray to bedside

10. Prepare injection area; then inject

11. Replace needle cover; then break syringe and put in waste basin

12. Wash hands between patients

13. Clean up

14. Chart.

It was found that it was easy to slip the completed syringe out of its packet. A new technic seemed to be required to push in the barrel the first time, but the nurses quickly made this adjustment. It was also found that the plastic tip served as the sterile needle cover instead of the 2x2 sponge. The expendable needles were sharper than reusable needles even after they were inserted into vials of medication.

The number of expendable needles and syringes used closely approximated the number of injections actually given. This, of course, is attributable to the fact that none of the expendables was found defective.

ANALYSIS OF COSTS

The following questions had to be resolved in order to achieve an effective determination of comparative costs:

- How much is it costing the hospital for each intramuscular and hypodermic injection?
- How much would it cost to use the disposable syringe and needle combination?
- For cost-accounting purposes, is the central supply service being properly credited for its actual costs?
- Is there an unnecessary waste of effort at any stage in the procedure?

To find the answers to these questions, the following assignments of responsibility were made:

The central supply services of medicine and surgery determined:

Time of collecting and distributing

Time and cost of cleaning, assembly, and sterilization of syringes and needles

Total needles and syringes issued as compared with the total amount of injections.

The comptroller's office, which includes purchasing, receiving, and cost accounting, determined:

Total cost of materials used in the injection procedures

Percentage of manufactured items actually used

Loss by breakage and theft

Cost of each injection.

All basic data were obtained from detailed time and motion studies made under actual working conditions. A normal distribution of 2-cc. reusable and expendable needles and syringes was used. It was found that a continuous study of eight days was necessary in order to obtain sufficient data for accurate conclusions.

1. Present method:

The first step in the analysis was to determine the total time and cost involved in the collection, cleaning, processing, and sterilizing of needles and syringes. The total costs involved were divided by 600, the average number issued per day, to obtain the cost per set of needles and syringes issued, and by 325, the number of injections given, to obtain the actual cost per injection.

The steps taken in central sterile supply, the time and cost involved per step, total times and costs, and unit costs are summarized in Exhibit 1 (page 124).

Central sterile supply syringe costs were found to be $0.076184 per injection. An additional cost results from the necessity to assign extra help every two or three days to process the accumulation of needles which had remained in surgical cleaner.

The processing cost in sterile supply closely approximates the results of a similar study, the report of which was recently published.

Detailed analysis of nursing service operations in the giving of injections resulted in a determination that the nursing personnel costs are $0.06265 per injection. The procedure, time, and cost factors used in making this determination are summarized in Exhibit 2 (page 125).

The following table summarizes the annual costs of all materials used for injections:

Present Method
Annual Cost of Supplies, Materials

Syringes	$6,579.40
Needles	4,081.43
Ether	1,060.72
Cotton	40.20
Applicators	38.76
Rubber bands	28.19
Constriction tubes	369.06
Gauze	103.15
Surgical cleaner	316.24
Linen wrapper and packets	965.00
TOTAL	$13,582.15

In the entire year there were 219,000 syringes and needles processed. The eight-day detailed study showed that 54.2 percent of the sterilized needles and syringes resulted in injections. Therefore, the use annually would be 118,698 needles and syringes for actual injections. Thus, the material cost per injection is $0.1144 (the annual material cost of $13,582 divided by 118,698 injections).

The cost per injection by present methods may be summarized as follows:

Summary of Unit Costs
Per Injection by Present Method
Reusable Needles and Syringes

Central sterile supply labor costs	
Syringe care	$0.07618
Needle care	0.02541
Nursing service labor costs	0.06265
Supplies	0.11442
TOTAL	$0.27866

Additional costs not included in the survey but which might be considered by cost-accounting

(Continued on next page)

procedures in some hospitals might include:

Fringe labor costs such as:

Factor	Percentage of Annual Labor Costs*
Social Security	2.5
Unemployment insurance	3.2
Sick leave	4.3
Workmen's Compensation	1.1
Free or reduced hospitalization	2.4
Two-weeks' vacation	4.3
Six paid holidays	2.6
TOTAL	20.4

*A national average based on hospital studies.

On a direct labor cost of 16 cents, 20.4 percent fringe labor cost comes to over three cents additional.

Overhead costs, such as space and utilities, devoted to needle and syringe processing.

2. Expendable needles and syringes:

The method of study of the disposable syringe procedure followed the method used in analyzing the present procedures. The total cost was determined by labor time in injection and cost of supplies.

Exhibit 3 summarizes the findings (page 126).

In the instances observed the number of needles and syringes used corresponded with the number of injections. There were no contaminations in the procedure.

It was interesting that the clean-up time for injections decreased materially, while the time of preparation increased slightly. Upon observation it was discovered that opening the packet of syringes was a new procedure for the nurses and would require experience before maximum proficiency could be attained.

A thread that would simplify the opening of the packet would cut the preparation time considerably.

—MEDICAL FACTORS, ATTITUDES

After the syringes were assembled the tray was taken to the patient's bedside. An efficient and

Exhibit I

Present Method

Central Supply Services—Costs per Injection

Operation and Average Time (seconds)				Seconds
Collecting (a)	Total—1 trip			4,401
	80% of time spent collecting injectables			3,300.75
	Trips { 2 to medicine / 2 to surgery }			13,203
TIME: 40.6246	(325) Injections given			40.6246
		Observed No. of Syringes	Total Time	Average Seconds
Syringe packaging				
Sorting		193	370	1.9171
Washing		325	2082	6.4061
Preparing		204	900	8.7009
Assembly		144	1295	2.9167
TIME: 36.8107	Labor time per syringe—			19.9408
	Labor time per injection-(325) issued 600			36.8107
		No. of Needles	Total Time	Average Seconds
Needle packaging				
Cleaning with water		170	1320	7.7647
Cleaning with ether		241	3122	12.9543
Assembly		144	1218	8.5183
	Labor time per needle—			29.6773
TIME: 54.7888	Labor time per injection-(325) issued 600			54.7888
			Breakdown	
		Trips		
Loading		2	231	461
Unloading sterilizers 2.883		2	238	476
				937 seconds
	Time per injection			2.883
Loading trucks for distribution 2.0370		4	331	1.324
	50% for syringes and needles			662
	Labor per injection (325)			2.037
Distribution (a)		4	4401	17.604
	50% for syringes and needles			8.802
27.083	Labor per injection (325)			27.083
Total time per injection				164.2271
Labor cost per second				$ .0004639
Labor cost per injection				.076184

(a) Statistics are based on average time of 4 minutes 26 seconds. In an individual time study, attendant spent 33 minutes 4 seconds on one ward rewrapping syringes. There also were delays in the trips to the floors collecting and distributing. Elevators were at floors.

sympathetic bedside manner toward the patient was observed in all cases. Needles were inserted with efficiency.

Municipal hospitals have a very high proportion of older patients. These are always the most difficult to inject, because they are sensitive and often they have received a high number of injections and their tissues have deteriorated.

With the present method, patients generally winced when injected. The universal reaction of the nurses on the floors can be summarized in the following statement: "There are too many loose and plugged syringes, and the needles are poor. It is hard to get deep penetration."

Patient reaction to use of the disposables was very good. There were no complaints and few comments beyond a passive, "That was all right."

The reaction of the nurses was enthusiastic, especially on the following points:

- After the injection the needle is snapped off, and that is the extent of the clean-up.
- The needles are much sharper.
- The syringe is tight and easy to work with.

There is no question that the nurses much prefer the disposable needles and syringes to the present, traditional method.

The chief of staff was of particular assistance in making a medical evaluation of the two systems. Unquestionably, everyone connected with a hospital must be concerned with cost factors. However, cost must be secondary to the concern that the physician must have for:

The possible dangers of infection and cross-infection through the use of contamin-

(Continued on next page)

Exhibit 2

Present Method
Nursing Service—Costs per Injection

OPERATION	Average Time (seconds)	Number of Injections Observed	Total Time (seconds)
Preparation of the injectable at the nursing station	61.5892	56	3449
Time spent by nurse going to and from nursing station and patients	15.4293	54	833
Injection procedure	16.5892	54	973
Disassembling and rinsing	16.5660	56	951
Charting medication on Kardex	10.	56	560
Total average time (seconds)	120.1737		
Nurse's salary per hour	$1.76		
per second	.00049		
Labor cost per injection	.05874		
10% differential; evening and night	.00391*		
Total cost per injection	$ .06265		

REMARKS

1. Injections were administered with a minimum of time delay; interruptions were not clocked.
2. Administering injections in groups of four to 13 decreased the average time per injection considerably. An individual injection was clocked at 213 seconds, approximately 1.5 minutes over the average; total cost of this injection was 10.414 cents.
3. Only injections of liquid medication were observed.
4. Nurse's salary computed was that of a recent graduate; a more experienced nurse's time would increase the cost.

*Injections, which include sedation, are given in approximately equal numbers on day, evening, and night duty. Here, only two-thirds of the 10% is used to account for evening and night premium rates.

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1. Step-by-step methods for all types of sterilization.
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ated or dull needles or inadequately cleaned syringes.

The possibility of hepatitis being transmitted through inadequate procedures.

All elements which relate to the comfort and well-being of the patient.

In order to determine the safety of the use of disposable needles and syringes, it was necessary for members of the medical staff to review the present operations and to observe the methods employed in the use of expendables. The review of present methods and of patient records indicated that it is exceedingly difficult to determine the source or cause of infection. There are, however, some obvious considerations:

—Certain types of infection have increased in direct proportion to the number of injections.

—There may be indications in a patient's record which lead the physician to believe that an infection probably was caused by an injection.

Exhibit 3

Disposable Syringe and Needle Cost per Injection

Labor Time In Injection	Time (in seconds) Per Procedure	Observed	Total Seconds
Preparation	64.162	370	23740
Injection	34.323	370	12700
Clean up	2.970	370	1100
Seconds per injection	101.455		
Labor cost per second	$0.00049		
Basic labor cost per injection	0.04959		
10% differential (evening-night)	0.00330*		
Total labor cost per injection	$0.05289		
Supplies	0.15		
Purchase overhead (per injection)	.003 (estimated 1/3 present cost)		
Cost per injection	$0.20589		

*Injections, which include sedation, are given in approximately equal numbers on day, evening, and night duty.

Also of substantial significance is the incidence, with present methods of injections, of sore arms, patient complaints, and headaches following the injection of drugs that cannot possibly have toxic effects. The physician is immediately suspicious of injections in these cases, particularly when he observes the tremendous possibilities of contamination that exist in the traditional methods.

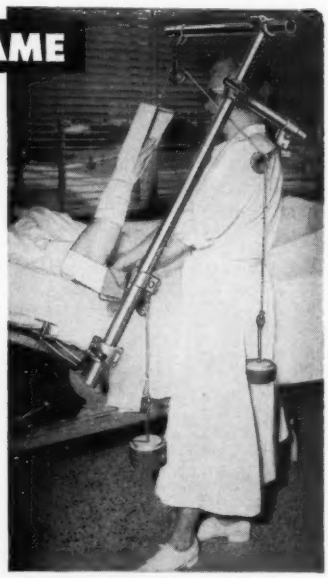
The exact extent to which expendable needles and syringes will reduce infection cannot be stated at this time. Much more observation is necessary before a positive statement can be made. The general medical opinion was that the reduction of infection after the use of disposables will shed substantial light on the extent to which the traditional methods of injections are responsible for primary and secondary infections.

Several members of the staff expressed the opinion that expendables will go far to solve the problems of injections but that there is one danger in their use. In a municipal hospital precautions must be taken to assure that the needles and syringes are destroyed after use and that they do not find their way into the hands of the illegal narcotics user or vendor.

CONCLUSIONS

Disposable needles and syringes have the following advantages over traditional needles and syringes:

ARM TRACTION FRAME



OUTSTANDING NEW DESIGN LIGHT WEIGHT—EASY TO USE GREATER PATIENT COMFORT MORE ROOM FOR NURSES

The DePuy Arm Traction Frame is attached to the bed by means of a steel rod framework, which goes under the mattress and clamps to both sides of the backrest frame. The unit can be quickly set up and not only provides sturdy support for varied types of traction, but *can be raised or lowered with backrest while traction remains unchanged.* This greatly increases patient comfort. This unique design also permits the nurse to approach the patient from the traction side to perform nursing duties, which cannot be done when using side arm traction units.

By shifting the apparatus towards the foot of the bed it can be used for some leg and foot traction or elevation applications. Vertical and horizontal traction bars are made of no-slip octagonal aluminum alloy tubing. The entire Frame folds flat for storage. A useful, dependable, practical item for *every* hospital! No. 687.

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Since 1895 Standard of Quality

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•They reduce the cost per injection.

•They are preferred by nurses.

•They are not as apt to make the patient uncomfortable.

•They provide less opportunity for contamination and infection to the patient.

Dr. Walter to Present Institute in Virginia

Carl W. Walter, M.D., associate clinical professor of surgery, Harvard Medical School, Boston, will hold an institute for operating room nurses at the Medical College of Virginia, Richmond, from April 28 to May 3.

Nurses who are interested in attending may obtain further information by writing to Mrs. Dorothy W. Errera, R.N., Institute for Operating Room Nurses, 721 Huntington Ave., Boston 15, Mass.

Tuberculosis Cost Rising in Nation

Cost of tuberculosis care in the United States has increased by $100,000,000 between 1952 and 1956, bringing the cost in 1956 to more than $725,000,000, the U.S. Public Health Service reports in the January, 1958, issue, *American Review of Tuberculosis and Pulmonary Diseases.*

Figures, compiled in a USPHS study, are based on data from governmental agencies and nongovernmental organizations.

The "conservative" total of $725,000,000 includes $25,000,000 for psychiatric T.B. patients, an item not included in the 1952 estimate, the report said.

The principal increase, according to the report, was $85,000,000 in hospitalization and rehabilitation costs, bringing the total in this category to $443,000,000. There was an increase of $22,000,000 in compensation, and of $5,000,000 for case-finding, public-health nursing and laboratory services, health, education and training programs.

The only significant decrease was $35,000,000 in building construction costs.

The most important factor of comparison is the "changed nature of tuberculosis control and care," the report stated.

New drugs and improved surgical technics have reduced the average number of tuberculosis beds occupied, but at the same time, cost of operating T.B. hospitals has gone up.

PHS Appoints Six Groups For Cancer Research

Six research organizations have been appointed by the U.S. Public Health Service to synthesize and test potential anti-cancer compounds.

The service's National Cancer Institute said one group of compounds to be synthesized is the anti-metabolite compounds. These inhibit growth of cancer cells by blocking metabolic reactions.

Four of the six organizations will prepare various kinds of metabolites. They are: Stanford Research Institute. Menlo Park, Calif.; Southern Research Institute, Birmingham, Ala.; Medical College of Virginia, Richmond; and the Monadnock Research Institute Inc., Antrim, N.H.

The cancer institute said hormonal substances offer another "promising" avenue of cancer research.

The Upjohn Co., Kalamazoo, Mich., and the University of Chicago will produce new hormonal substances in quantities sufficient for laboratory and clinical work.

designed for the surgeon whose patients can afford the best

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Electrosurgical reprints and detailed specifications will be mailed you on request. Please address your inquiry to:

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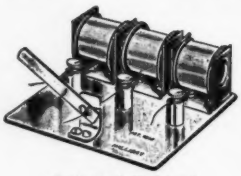

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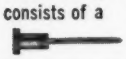

Slotted Guide Needle,

a Tracheotomy Tube,

a Cutting Trocar which is positioned by the Slotted Guide Needle,

and a plastic Inner Cannula.

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SHELDON TRACHEOTOME

A tracheotomy, whether elective or emergency, can be performed in less than 30 seconds with this new precision instrument. The fast, accurate technic is equally effective in a hospital or in the field... reducing trauma to a minimum.

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CHICAGO MEDICAL REPORT

(Continued from page 27)

the stagnant retained bronchial secretions.—*Alvan L. Barach, M.D.*, clinical professor of medicine, Columbia University College of Physicians and Surgeons, New York City.

Says Flu Epidemic of World War I Major Cause of Parkinson's Disease

Patients Growing Older; in 15 Years Incidence May Be Greatly Reduced

A major cause of Parkinson's disease is encephalitis from a virus. This is known to have resulted from the millions of cases of influenza and encephalitis that occurred between 1917 and 1926 throughout the world.

A recent combined study of 1,500 patients showed that the present population of patients with Parkinson's disease was about 10 years older than those found 10 years ago. This suggests that the group as a whole is growing older and therefore has some common cause such as the influenza epidemic.

In my own experience 60 percent of all our patients with Parkinson's disease had the flu. I have not yet seen a patient born after 1928, and only one born in that year. If our conclusions are correct, in another 15 years there should be a significant reduction in the number of patients with this disease in the United States (now approximately 100,000 to 270,000).

The best candidates for surgery in Parkinson's disease are patients between 40 and 60 years of age, with tremor and stiffness on only one side. In my opinion, only one in 10 is a good or ideal case for such surgery.—*Robert S. Schwab, M.D.*, assistant clinical professor in neurology, Harvard Medical School, Boston.

OHIO MEETING

(Continued from page 20)

finances are limited. Urologic surgery, repair of hip fractures, blood-vessel surgery, and open heart surgery will increase.

There will be more emergency room clinics—with the emergency room becoming the diagnostic center of the hospital; greater use of disposable materials; and elimination of laundry and the replacement of dry goods.

The need will be even greater for training of hospital administrators, social workers, dentists, dietitians, technicians, occupational and physical therapists, and for doctors with specialized training. Medical advances will decrease, surgical advances increase, meaning more hospital patients.

Now and in the future, hospital budgets must be flexible to allow more research. The public must be educated concerning changing needs of hospitals.—*Robert M. Zollinger, M.D.*, chairman, department of surgery, University Hospital, Columbus.

TRADE TOPICS . . .

Merck Reorganizes Sales, Marketing of Chemicals

Reorganization of the sales and marketing area of the chemical division, Merck & Co., Inc., into four separately functioning departments has been completed, the company announces.

Each department will operate in specialized areas under the supervision of a marketing director. Those appointed as directors are: H. P. Sarkison (medicinal products); J. E. McCabe (agricultural products); R. W. Hayes (general products); and G. C. Moore (distributive products).

New Sales Vice-president Elected by B-D

William S. Little has been elected vice-president for sales, Becton, Dickinson and Co. As chief sales executive, he will supervise the domestic and Canadian distribution for the parent company and its divisions.

Mr. Little succeeds D. Wayne Johnson, who retired several months ago.

The new vice-president joined the firm in 1937 as a sales representative, was named regional sales manager for the South Central states in 1947, and later became manager of the West coast division. In 1956, he became assistant to Mr. Johnson.

G. D. Searle to Acquire Steroid Materials Firms

G. D. Searle & Co., Chicago, has announced that it will acquire Root Chemicals Inc., San Juan, Puerto Rico, and its subsidiary, Productos Esteroides, S.A., of Mexico.

Root will become a wholly-owned subsidiary of Searle, under the management of Dr. I. V. Sollins, organizer of the firm.

According to John G. Searle, president, acquisition of the two firms provides access to one of the major sources of raw materials used in the manufacture of various steroid drugs.

Schering Corp. Names "Top Ten" Salesmen

Philip W. Segnitz was honored recently as Schering Corp.'s "1957 Distinguished Salesman." Mr. Segnitz, who represents the company in Monmouth and Middlesex counties in New Jersey, received the award at the company's annual salesmen's banquet, during which the top ten of the company's 375 representatives were named.

Second place winner was Yale Epstein, Baltimore, and H. Steven Schneider, Concord, Calif., placed third.

The seven others were: Rennie J. Clawson, San Francisco hospital representative; Daniel M. Bick, Freeport-Hempstead, N.Y.; Morton Gamerman, Des Moines, Iowa; S. Jerry Blynn, Brooklyn, N.Y., Hubert J. Harmer, Omaha; Byron J. Reburn, Sioux City, Iowa; Charles J. Piper, San Francisco-San Mateo, Calif.

Hospital Relations Manager Named

Sol Singerman has been appointed manager of hospital relations, surgical products division, American Cyanamid Co. He had been director of purchases, Michael Reese Hospital, Chicago. Prior to that he was assistant administrator, Knickerbocker Hospital, New York City.

General Electric Appoints New Product Planning Head

William A. Mayer, formerly sales representative, x-ray department, General Electric Co., has been appointed the company's manager of product planning — medical. He has been with the firm 10 years.

Mr. Mayer succeeds George W. Happe, who retired March 1, after 43 years with the firm.

J. & J. Announces Two Sales Staff Changes

Mr. McNamer

Mr. Crowley

Henry C. McNamer, Jr. has been appointed manager, Mid-Western hospital division, Johnson & Johnson. He has been a representative in both the Los Angeles and Seattle territories.

He succeeds Thomas A. Crowley who has been named by the firm as assistant sales manager.

Geigy Breaks Ground For Research Laboratory

Ground was broken in mid-February in Ardsley, N.Y., for a 37,000 sq. ft. basic research laboratory for the pharmaceutical division of Geigy Chemical Corp. It is being built as part of an intensive program to expand research facilities launched by the parent company in Basle, Switzerland.

The first and second floors will contain 28 pharmacologic, biochemical, and organic chemical laboratories. The air-conditioned basement will have quarters for experimental animals and laboratory facilities for toxicological studies.

Glasco Co. Adds Comptroller to Staff

Z. A. Sutter has been named comptroller, of Glasco Products Co., subsidiary of Owens-Illinois Glass Co. Mr. Sutter will assume responsibility for Glasco's newly installed electronic order writing, billing, and statistical data system.

(Continued on next page)

Seamless Rubber Names Two to Executive Posts

Mr. Pond

Mr. Crotty

J. Lawrence Pond has been appointed treasurer of The Seamless Rubber Co., and Edward C. Crotty has been named secretary and assistant treasurer.

Mr. Pond succeeds Edward J. McDonald who is retiring July 1 from the position of secretary and treasurer of the company after 48 years' service.

Norwich Promotes Three To New Positions

Norwich Pharmacal Co. has announced the appointment of Henry R. Bennett as director of the newly created pharmaceutical research division and Paul C. Wieseman as assistant chief chemist of the specifications and control department.

Both have been with the firm since the mid-1930's.

The firm also has named Walter E. Goff manager of the Chicago area.

Kelite Corp. Promotes Several Staff Members

Kelite Corp. has announced several promotions of staff members.

Robert G. Hazel has been made a district sales manager, with headquarters in Beaumont, Tex.

Vincent E. Bowes, formerly petroleum service manager, now is midwestern regional sales manager, with headquarters in Chicago.

Kelite has also promoted George S. Johnson to district sales manager for the Indianapolis area. He has been a sales supervisor and sales engineer.

Abbott Labs Tells Of Staff Changes

Norman A. Hansen, director of development and packaging, Abbott Laboratories, has been elected the firm's vice-president in charge of personnel and community relations.

Mr. Hansen joined Abbott in 1918 as an assistant in pharmaceutical research, and has been director of development since 1946. He was elected to the board of directors in 1950.

In another appointment announced by Abbott, E. J. Smith was elected assistant treasurer. He had been manager of accounting. Edward F. Beyer was appointed to succeed Mr. Smith.

In addition, George R. Ryan was promoted to director of packaging for Abbott, Howard Richards to manager of the package standards department, and Robert W. Rivett, Ph. D., to manager of development laboratories.

Mills Supply Co. Names Assistant Manager

William R. Rado has been named assistant general manager, Mills Hospital Supply Co.

Active in the hospital equipment and supply field for over 20 years, Mr. Rado was most recently contract

On our floor
THIS IS THE WAY I LIKE TO PREPARE AN ENEMA. JUST CALL CENTRAL SUPPLY AND ASK FOR TRAVAD.
YOU'RE SO RIGHT. THE TRAVAD DISPOSABLE ENEMA IS A BOON TO BUSY HOSPITALS. ... AND IT'S EQUIVALENT TO 1500 c.c. OF SOAP SOLUTION.
HANDLING ENEMA REQUISITIONS IS A CINCH NOW. TRAVAD SURE EASES THE WORK LOAD FOR US.
TRAVENOL LABORATORIES, INC. Morton Grove, Illinois

manager, northeastern division, Will Ross, Inc.

Massillon Rubber Co. Names H. P. Croxton President

Herbert P. Croxton is the new president and treasurer of the Massillon Rubber Co. He joined the company in 1928 as its secretary and treasurer and until recently has been directly responsible for the sales and advertising.

Mr. Croxton succeeds J. G. Lester, who has become chairman of the company's board. Mr. Lester has been president of the firm since its formation in 1913.

Sheffield Chemical Names U. S. Distributor

Baltimore Biological Laboratory has been appointed sole distributor of Sheffield Chemical's protein hydrolysate and peptone products in the United States.

Sheffield Chemical, a division of National Dairy Products Corp., will continue to market its protein and milk chemical line, other than hydrolysates, through its own sales force.

Baltimore Biological Laboratory is a division of Becton, Dickinson and Co.

Breon Appoints Medical Director

Jerome Noble, M.D., has been named medical director of George A. Breon & Co.

A graduate of the State University of New York College of Medicine, New York City, Dr. Noble has been on the faculty of New York Medical College and was engaged in special research work at Bird S. Coler Memorial Hospital, New York City.

In other appointments announced by Breon, Charles H. Soren has been named control chemist; R. S. Bunning has been appointed product manager; Eugene J. McGlynn now is manager of the Diaparene line; Joseph P. Dougherty is now sales training manager and trade exhibit director; and William Casteel has been named to the new post of trade relations manager.

Willard Rylatt replaces Mr. Bunning as mid-west regional sales manager, with headquarters in Evanston, Ill.

Taking charge as Denver divisional manager for Breon is James B. McPheeters. Sam G. Howard is the new divisional sales manager of the southwestern states, with headquarters in Dallas, Tex.

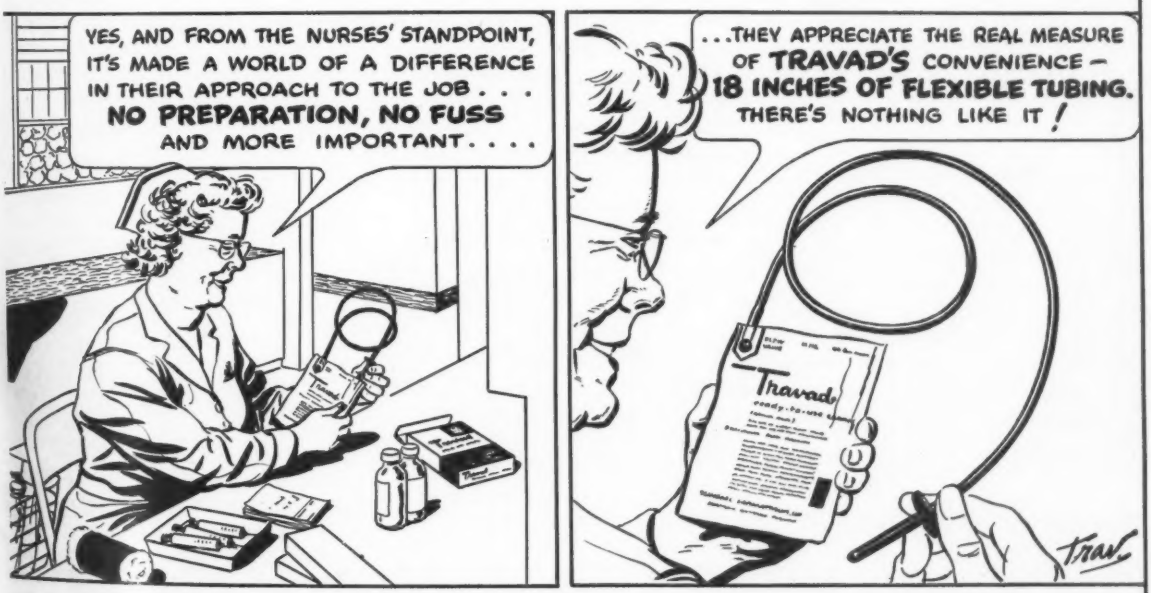
Wilmot Castle Creates New Sales Position

Bruce C. Babcock has been named manager of surgical operating table sales of Wilmot Castle Co. The position grows out of the addition of a new surgical operating table to the firm's line.

Mr. Babcock organized Wilmot Castle's television department in 1952, and will continue as head of the department.

(Continued on next page)

Write for sample unit.


YES, AND FROM THE NURSES' STANDPOINT, IT'S MADE A WORLD OF A DIFFERENCE IN THEIR APPROACH TO THE JOB . . . NO PREPARATION, NO FUSS AND MORE IMPORTANT. . . .
. . . THEY APPRECIATE THE REAL MEASURE OF TRAVAD'S CONVENIENCE — 18 INCHES OF FLEXIBLE TUBING. THERE'S NOTHING LIKE IT!
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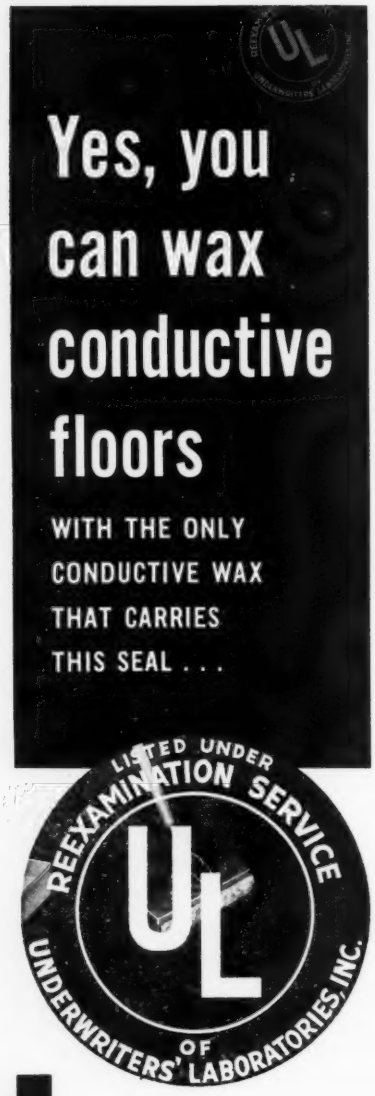
***Pharmaceutical Products Division of* BAXTER LABORATORIES, INC.**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Huntington C-2C Conductive Wax, listed by Underwriters' as being safe for electrically conductive floors . . . makes it possible for you to simplify O.R. floor care and improve aseptic conditions. See your Huntington representative for complete details and write for free booklet, "How to Maintain Conductive Floors."
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Philco Distributors, Inc., Names Branch Managers

The appointment of general managers for the Chicago and Los Angeles branches of Philco Distributors, Inc., has been announced.

Carl Krumrei, general manager of the Chicago branch, was named to the same position in Los Angeles.

Charles Hakimian, formerly with Philco, and who also was president of Norge Chicago Corp., was appointed Philco Distributors' general manager in Chicago.

Export Representative For Sales Named

Bechhofer Brothers, Inc., New York City, has been named exclusive export sales representative for products manufactured by the refrigeration division of the Brewer-Titchener Corp.

Bechhofer will represent the entire Brewer-Titchener line of commercial refrigeration equipment, including frozen food cabinets, ice cube makers, and blood banks.

Mead Johnson Names Marketing Director

Robert H. Miller, former Mead Johnson regional sales manager in New York, has been promoted to director of market development planning for formula products in the firm's nutritional and pharmaceutical division.

Mr. Miller has been with the company's sales organization for 26 years.

News Briefs

Frank E. Pringle—has been named general sales manager, Howe Scale Co., a division of Safety Industries, Inc. With his new appointment, he also becomes a member of the Howe executive committee.

* * *

Alexander J. Farina—has been named Central Jersey sales representative for Eaton Laboratories.

Wilmot R. Craig and Sherman Farnham—have been elected to the Board of Directors of Wilmot Castle Co. Mr. Craig is executive vice-president, Lincoln Rochester Trust Co., and Mr. Farnham is a Rochester, N.Y., attorney.

* * *

Joseph W. Shaughnessy—has become advertising manager, Sanborn Co. Mr. Shaughnessy has been with the company since 1951.

* * *

Homer Higgs Associates, Inc.—moved March 1, to new and larger quarters, at 150 E. 35th St., New York 16, N.Y.

* * *

Kenneth Carter, M.D.—vice-president—research and medical affairs, Ames Co., Inc., has been elected to the company's board of directors. Dr. Carter joined the firm in February, 1957, when he arrived from England.

* * *

James W. McNeil, M.D.—has been named associate medical director of the nutritional and pharmaceutical products division, Mead Johnson & Co.

* * *

Prudencio Escandon — formerly sales manager, Laboratorios Biogen, Caracas, Venezuela, has been named sales supervisor for the Caribbean area, Norwich Pharmacal Co.

* * *

Schueler & Co.,—medical supplies and equipment firm, is celebrating its 50th anniversary this year. Its founder, 81-year-old Ernest Schueler, now chairman of the board, is still active in the company.

* * *

R. S. O'Neil—will head Becton, Dickinson and Company's newly instituted advertising and sales promotion department. The appointment coincides with a merging of the two departments.

* * *

Harold G. Philippi—has been appointed sales manager for the Dallas division, American Hospital Supply Corp. He had been contract manager for two years.

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URINARY ODORS

AMMONIA DERMATITIS

DECUBITUS ULCERS

in your incontinent patients with

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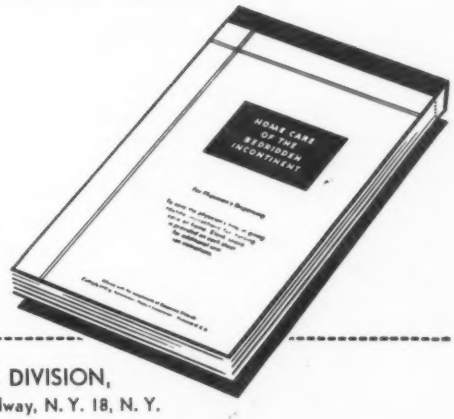
Mail the coupon below for free copies of nursing instruction leaflets with detailed procedures and illustrations of the proper institutional care of the incontinent patient.



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SPECIAL HOSPITAL OFFER

3 dozen 9 oz. cans of Diaparene Antibacterial Dusting Powder for only $18.00 (Retail List $36.00). Six 1 lb. jars of Ointment for $20.00, six 1 lb. jars of Peri-Anal for $20.00. Order direct from Homemakers Products Division, Geo. A. Breon & Co., 1450 Broadway, New York 18, N. Y. This offer for a limited time only.

HOMEMAKERS PRODUCTS DIVISION,
GEO. A. BREON & CO., 1450 Broadway, N. Y. 18, N. Y.

☐ Please send me free nursing instructions for care of my incontinent patients.

☐ Please send 3 dozen 9 oz. Diaparene Dusting Powder, (cornstarch base).

☐ Please send six 1 lb. jars of Diaparene Ointment, (water-miscible).

☐ Please send six 1 lb. jars of Diaparene Peri-Anal, (water-repellent).

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BY_____

PERSONALLY SPEAKING

(Continued from page 69)

Jack A. Wolford, M.D. — has resigned as superintendent, Hastings State Hospital, Ingleside, Nebr., effective in June. He has accepted a teaching position in the Western Psychiatric Institute, University of Pittsburgh. He will also act as liaison between the University and the state mental hospitals of the area.

A. E. Yeager—retired recently as chief engineer, Sacred Heart Hospital, Spokane, Wash. after 22 years' service.

Donald F. Zuercher—has been appointed administrative assistant, Chippewa County War Memorial Hospital, Sault Ste. Marie, Mich.

Mrs. Wanda Zumbro, R.N. — has been appointed nurse anesthetist, Randolph County Memorial Hospital, Pocahontas, Ark.

VA Appointments

George M. Leiby, M.D.—has been named area director of professional services, Columbus, Ohio, VA area medical office. **Dan J. Macer** will replace Dr. Leiby as manager of the Chicago VA Research Hospital.

Reuben Cohen, manager, VA Hospital, Kecoughtan, Va., has succeeded Mr. Macer as manager, VA Hospital, Sunmount, N. Y.

William J. Lyons — has been named manager, VA Hospital, Rutland Heights, Mass., succeeding the late **Lester L. Weissmiller, M.D.** Mr. Lyons was previously assistant manager, VA Hospital, Northport, N. Y.

Francis L. Puckett, M.D. — has been appointed chief of the reception service, VA Hospital, Marion, Ill.

Otto Schaefer, M.D.—has become manager, VA Hospital, Danville, Ill., succeeding **O. K. Timm, M.D.**, who was appointed supervisor for a 10-state area with headquarters in Omaha, Nebr.

Harold A. Stokes, M.D.—has been appointed manager, VA Hospital, Fort Meade, S. Dak., at which he had been director of professional services since 1955. He succeeds **Frederick J. Bradshaw, Jr., M.D.** who was transferred to the VA Hospital, Tomah, Wis.

VA Nursing Appointments

Janet Fleming, R.N.—is assistant chief, nursing service, VA Hospital, Marion, Ind. Prior to transfer, she was a supervisor at the Northport, N. Y., VA Hospital.

Frank Morrison, R.N.—has become chief, nursing service, VA Hospital, Lyons, N. J. Previously he held a similar position at the VA Hospital, Salisbury, N. C.

Janesy Myers, R.N.—is assistant chief, nursing service, VA Hospital, Northport, N. Y. Formerly she was assistant chief, nursing education, Coatesville, Pa., VA Hospital.

Laura Reeder, R.N. — has been named assistant chief, nursing education, VA Hospital, McKinney, Tex., at which she was formerly acting assistant chief.

Jurhetta Smoot, R.N.—is assistant chief, nursing education, at the Northport, N. Y., VA Hospital. Prior to transfer, she was assigned to the VA Hospital, Tuskegee, Ala.

New Officers

The South Carolina Hospital Association named the following officers at its meeting in January in Columbia. They will take office in April.

The officers are: **Claude Weeks**, superintendent, Cherokee County Memorial Hospital, Gaffney, president; **Charles C. Boone**, administrator, Barnwell County Hospital, Barnwell, president-elect; **James M. Daniel**, superintendent, Columbia Hospital of Richland County, Columbia, re-elected treasurer.

* * *

J. E. Smits, administrator, Children's Hospital Society of Los Angeles, has been named president of the Hospital Council of Southern California.

Other officers are: **Percy F. Riggs**, administrator, Presbyterian-Olmstead Memorial Hospital, Los Angeles, vice-president; **William J. Daniels**, administrator, Hawthorne (Calif.) Community Hospital, treasurer; **Mrs. Winifred L. Bacon**, administrator, Hoag Memorial Hospital-Presbyterian, Newport Beach, secretary.

* * *

The Arizona Dietetic Association has elected the following officers:

Mrs. Virginia Polluconi, dietitian, VA Center, Whipple, president; **Martha Pollard**, nutrition-

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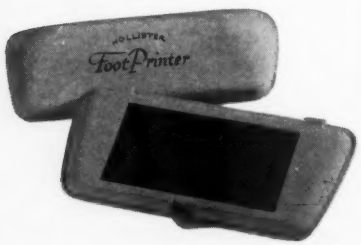

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ist, Arizona State Department of Health, president-elect; **Mrs. Elizabeth Hurley,** VA Hospital, Tucson, secretary; **Anne Linder,** Tucson Medical Center, treasurer. The American Nurses' Foundation recently elected the following officers:

Mrs. Margaret Filson Sheehan, R.N., assistant professor, and didector of nursing service, University of Chicago Clinics, president; **Mrs. Elizabeth K. Porter, R.N.,** dean, and professor of nursing, Frances Payne Bolton School of Nursing, Western Reserve University, Cleveland, O., vice-president; **Roy W. Bixler, Ph. D.,** Decatur, Ga., secretary.

* * *

The Eastern Indiana Hospital Council recently elected the following officers: **Frank G. Sheffler,** administrator, Reid Memorial Hospital, Richmond, president; **William J. Russell,** administrator, Clinton County Hospital, Frankfort, vice-president; **Mrs. Imogene Kirkpatrick,** director of nurses, Hancock County Memorial Hospital, Greenfield, secretary-treasurer.

* * *

The Evansville (Ind.) Area Hospital Council has named the following new officers:

Nolan R. Lackey, administrator, Welborn Memorial Baptist Hospital, Evansville, president; **Harold L. Gano,** adminstrator, Carmi (Ill.) Township Hospital, vice-president; **Paul T. Sodt,** assistant administrator, Protestant Deaconess Hospital, Evansville, secretary.

* * *

Officers re-elected to serve the Northwest Indiana Hospital Council are:

Everett A. Johnson, administrator, Methodist Hospital, Gary, president; **Sister M. Vetusa, R. N.,** administrator, St. Catherine's Hospital, East Chicago, vice-president; **William L. Lyon,** assistant administrator, Methodist Hospital, Gary, secretary.

Deaths

Joseph V. F. Clay, M.D.—74, died January 22. He was emeritus professor of otolaryngology, Hahnemann Medical College and Hospital, Philadelphia, having served on the college staff from 1909 until his retirement in 1949.

Dr. Clay was a consultant at the Allentown (Pa.) State Hospital, and a former consultant at the Coatesville (Pa.) Hospital.

Andre Crotti, M.D.—84, died January 31. He was widely known as a specialist in thyroid surgery for goiter.

Dr. Crotti was the first president of the U. S. Chapter of the International College of Surgeons, and the second president of the college.

William F. Lorenz, M.D.—76, professor emeritus of psychiatry, University of Wisconsin Medical School, Madison, died February 18.

Dr. Lorenz was active in promoting the rehabilitation of disabled servicemen in Wisconsin, and had been a member of the state VA medical council since 1923. He was noted for his research in the use of carbon dioxide gas in the treatment of psychoses, and helped to develop new remedies for syphilis.

Sister Christiana—administrator, St. Mary's Hospital, Walla Walla, Wash., from 1945 to 1951, died December 22. She was a former administrator of St. Vincent's Hospital, Portland, Ore., and of St. Joseph Hospital, Vancouver, Wash.

Sister Margaret Josephine Nolan R.N.—84, died February 16. She had been a nurse in New Jersey and New York Hospitals for 51 years.

Sister Margaret served at Good Samaritan Hospital, Suffern, N.Y., for 26 years, first as a nurse, and later as superintendent.

James R. Webster, M.D.—51, noted authority on dermatology, died February 28. He was president of the American Academy of Dermatology and Syphilology, and was a former president of the Chicago Dermatological Society.

Dr. Webster was professor of dermatology, Northwestern University Medical School, Chicago. He was a member of the attending staff at both Chicago Wesley Memorial and Cook County Hospitals.

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When the Hospital Council of Philadelphia held its first Trustee Institute, on March 4, 306 trustees from the council's 64 member hospitals attended. Shown here is a portion of the group, which heard talks by Kenneth B. Babcock, M.D., director, Joint Commission on Accreditation of Hospitals; John T. Ryan, Jr., president, Hospital Council of Western Pennsylvania; and Albert W. Snoke, M.D., director, Grace-New Haven Community Hospital, New Haven, Conn., and past president, American Hospital Association. Program also featured a panel discussion built around questions submitted by the audience. Panel moderator was Raymond P. Sloan, vice-president, Alfred P. Sloan Foundation.

Educational Course Offered For Small Hospital Heads

The correspondence course in basic hospital administration conducted by the Columbia University School of Public Health and Administrative Medicine has been opened this year to administrators of small hospitals throughout the country.

The first on-campus session of the 1958-59 class will meet May 26 through June 6. This session begins a year of intensive study in hospital organization and management.

During the year, each participant will complete and review, with the aid of a preceptor, eleven monthly home-study assignments. A final two-week on-campus session in June, 1959, will finish the course.

Enrollment is open to heads of hospitals of approximately 100 beds or less. The only academic requirement is a high school education. Those holding advanced degrees in hospital administration are not eligible. Academic credit is not given for the course.

Tuition for the course is $200. Each student provides his own text material; maximum cost is approximately $40.

Further information on the course may be obtained by writing to: The Program of Continuation Education, School of Public Health and Administrative Medicine, 600 West 168th St., New York 32, N. Y.

Predict Increase Use Of Hospital Facilities

Country-wide use of hospitals "will very likely increase as much as 50 per cent in the next 20 years," according to George Bugbee, president, Health Information Foundation. At a meeting of the Ohio Society of Internal Medicine, held in Cleveland, he said that public demand for medical care is rising in the U.S.

Mr. Bugbee said that more people are becoming expert in utilizing medical care and health facilities. He added that an expected population increase of 225 million by 1975 may create a staggering demand.

National Health Council Forms Commission on Health Careers

The National Health Council has formed a National Commission on Health Careers, under direction of Leonard A. Scheele, M.D., former surgeon general, U.S. PHS.

The commission will stimulate, and provide guidance to all kinds of health career programs at local, regional, and national levels and will conduct fact-finding studies on specific issues.

Commission membership will be drawn from leaders in the professions, government, labor, industry, and education.

Harrisburg (Pa.) Hospital receives final approval of its application for a $750,000 loan from the federal Housing and Home Finance Agency for construction of new school of nursing unit. David M. Walker (second from right) delivers official notification to (l. to r.) George R. Bailey, board of managers; the Honorable Nolan F. Ziegler, Mayor of Harrisburg; Edward M. Green, board of managers; and Webster S. Kohlhass, superintendent. According to Mr. Walker, this is the first hospital to be approved for such a loan, part of a $25,000,000 Congressional appropriation to provide assistance for student nurse and medical intern housing facilities.

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Tablet may also be swallowed whole, for maintenance therapy.

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New Corticosteroid

E. R. Squibb & Sons has introduced Kenacort (Squibb triamcinolone) for corticosteroid therapy in allergic, inflammatory, and dermatological conditions.

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Dipaxin, oral anticoagulant introduced by the Upjohn Co., is in 1-mg. form for long-term therapy where close adjustment of daily dosage is required to achieve optimum depression of prothrombin time.

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clinical notes

Antibiotic Prophylaxis In Unconscious Patients

Prophylactic antibiotic therapy is of no benefit to unconscious patients and, in fact, is distinctly hazardous in such patients, state Petersdorf, Curtin, Hoeprich, Peeler, and Bennett in *The New England Journal of Medicine* 257:1001-09 (November 21, 1957).

The authors evaluated the efficacy of prophylactic administration of antimicrobial drugs in unconscious patients in preventing infections of the lungs and skin with resistant micro-organisms. The effect of such treatment on the prevalence and type of infection in patients with indwelling catheters was also studied.

Of 72 comatose patients, with no overt infection, 32 were given penicillin and streptomycin or tetracycline prophylactically, and 10 were given sulfisoxazole or nitrofurantoin. The remaining 30 received no antimicrobial prophylaxis.

The mortality was not influenced by antibiotics. However, in 45 percent of the prophylactically treated group, pulmonary complications developed, while pneumonitis occurred in only 15 percent of the controls. Seven of the treated group had cutaneous infections with *Staphylococcus aureus*, and two died with bacteremias due to gram-negative organisms. These complications did not occur in patients from whom antibiotics were withheld.

Strains isolated from the treated group were more resistant to antibiotics than those cultured from controls.

Routine administration of antibiotics neither prevented nor ameliorated infection of the bladder in patients with indwelling catheters. Although the resistance of the bacteria in the urine did not increase during treatment, strains of other species, even more refractory to antimicrobial therapy, regularly appeared.

Use of Adrenal Steroids In Treatment of Allergy

Use of corticotropin and the adrenal steroids for treatment of allergy should be restricted to the times when conventional methods fail to provide relief, states Bookman in *The Journal of the A.M.A.* 165:1950-53 (December 14, 1957).

While these drugs provide symptomatic relief, he points out, they seem to have no appreciable effect upon the underlying allergic state. In addition, their use is not without risk, since they can camouflage symptoms of infection, allowing the infection itself to become uncontrolled.

A recent study indicated that protection by tetanus antitoxin is greatly reduced when steroids are used because the steroids enhance the potency of the toxin.

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SCANNING THE NEWS

(Continued from page 7)

sible for reducing maternal mortality from 20,000 in 1900 to 1,600 in 1956, in the U.S.

Degenerative diseases have replaced communicable illnesses as leading causes of death. Generally more of a threat to men than women, heart disease caused an excess male mortality of 78 per cent in 1955. Cancer caused an excess male mortality of 20 per cent.

Accidents are another major cause of excess male deaths despite a marked decline in their rate of frequency since 1900. For example, at ages 20 to 24, male accident mortality is 500 per cent higher than that of females.

Although there may be biological reasons why women are the healthier sex, it is also possible that men are more subject to tensions of modern urban life, the bulletin suggested.

TV, Atomic Energy Used In New Cancer Technic

Television and atomic energy principles are being combined at the University of Chicago to prolong lives of some patients suffering from advanced prostatic or breast cancer, it was reported at the annual meeting of the school's Cancer Research Foundation.

In the procedure, tiny beads of a radioactive substance are implanted directly into the pituitary gland with a new kind of hypodermic needle. The beads destroy the gland which regulates the manufacture of various hormones on which certain kinds of breast and prostatic tumors are dependent for growth.

The glasslike beads, each about the size of a pinhead, are inserted through the nose into the gland. Previously, the same radioactive pellets had to be introduced into the pituitary through an opening made in the skull.

The beads, made from yttrium-90, a rare earth element, are given ray-emitting energy by cooking them in an atomic furnace.

The procedure makes use of an x-ray camera which enables surgeons to position the pellets with great precision.

The new camera is hooked into a television circuit, magnifying the pituitary gland area with minimum x-ray exposure.

Medicine Must Solve Man's Space Travel Woes

Man will need new drugs if he is to tolerate outer space travel, according to Maj. David G. Simons, chief, Space Biology Branch, Holloman Air Force Base.

At a recent meeting of the American Pharmaceutical Manufacturer's Association, Maj. Simons said weightlessness, cosmic radiation, and body metabolism are the most pressing problems of space travel.

For example, space sickness caused by reduced sensory input and weightlessness may be the most troublesome during long space flights.

A drug which would slow down the body's metabolism during long flights would lighten the supply of required food and water, Maj. Simons pointed out. A sedative or hypnotic to effect this slowdown could not be used, however, because the precise effect on the individual's vital capacity could not be predicted.

Maj. Simons said a drug is also needed to protect specific tissues against cosmic radiation.

New Anti-TB Agent Slated For Tests in VA Hospitals

A new synthetic drug, thiocarbanidin, will be tested against tuberculosis by the VA, the agency announced recently.

Therapeutic effect of the drug, which is given orally in small doses, is reported to be similar to that of PAS, the VA said. Its use in humans and animals appears to have no ill effects. The drug will be administered in combination with streptomycin or isoniazid.

VA researchers hope the new compound may prove to be an acceptable substitute for PAS, which sometimes causes nausea and vomiting. In addition, some patients develop resistance to PAS.

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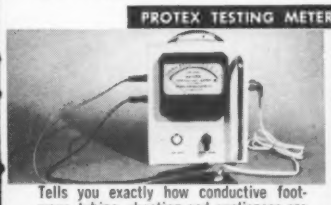

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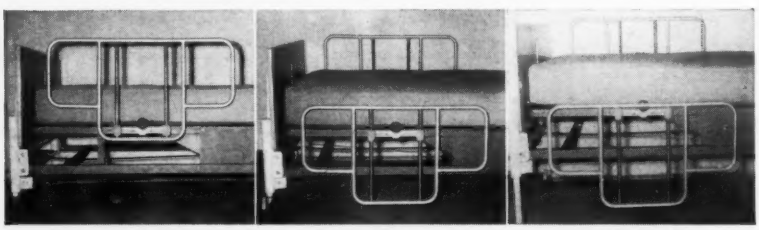

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703.	713.	C-730.	C-740.	C-750.	C-760.	C-770.	C-780.	C-790.	A-802.	A-812.
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706.	716.	C-733.	C-743.	C-753.	C-763.	C-773.	C-783.	A-795.	A-805.	A-815.
707.	717.	C-734.	C-744	C-754.	C-764.	C-774.	C-784.	A-796.	A-806.	A-816.
708.	718.	C-735.	C-745.	C-755.	C-765.	C-775.	C-785.	A-797.	A-807.	A-817.
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